Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Architecture & Construction**
Course Type: **Orientation/Exploratory**
Career Cluster: **Architecture & Construction**

Secondary – Middle School	
Course Number	8109350
CIP Number	148109350M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Architecture & Construction career cluster. The content includes but is not limited to careers in designing, planning, managing, building and maintaining the built environment. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8109350	Introduction to Architecture & Construction	TEC ED 1@2 ENG&TEC ED1@2 BLDG CONST @7 7G BLDG MAINT @7 7G DRAFTING @7 7G	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the Design/ Pre-Construction career pathway.
02.0 Demonstrate an understanding of the Construction career pathway.
03.0 Demonstrate an understanding of the Maintenance/ Operation career pathway.
04.0 Apply leadership and communication skills.
05.0 Describe how information technology is used in the Architecture and Construction career cluster.
06.0 Use information technology tools.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Architecture & Construction**
Course Number: **8109350**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Architecture & Construction career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Architecture & Construction career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the Design/ Pre-Construction career pathway--The student will be able to:
01.01	Define and use proper terminology associated with the Design/ Pre-Construction career pathway.
01.02	Describe some of the careers available in the Design/ Pre-Construction career pathway.
01.03	Identify common characteristics of the careers in the Design/ Pre-Construction career pathway.
01.04	Research the history of the Design/ Pre-Construction career pathway and describe how the associated careers have evolved and impacted society.
01.05	Identify skills required to successfully enter any career in the Design/Pre-Construction career pathway.
01.06	Describe technologies associated in careers within the Design/ Pre-Construction career pathway.
02.0	Demonstrate an understanding of the Construction career pathway--The student will be able to:
02.01	Define and use proper terminology associated with the Construction career pathway.
02.02	Describe some of the careers available in the Construction career pathway.
02.03	Identify common characteristics of the careers in the Construction career pathway.
02.04	Research the history of the Construction career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Construction career pathway.
02.06	Describe technologies associated in careers within the Construction career pathway.

CTE Standards and Benchmarks	
03.0	Demonstrate an understanding of the Maintenance/ Operation career pathway--The student will be able to:
03.01	Define and use proper terminology associated with the Maintenance/ Operation career pathway.
03.02	Describe some of the careers available in the Maintenance/ Operation career pathway.
03.03	Identify common characteristics of the careers in the Maintenance/ Operation career pathway.
03.04	Research the history of the Maintenance/ Operation career pathway and describe how the careers have evolved and impacted society.
03.05	Identify skills required to successfully enter any career in the Maintenance/ Operation career pathway.
03.06	Describe technologies associated in careers within the Maintenance/ Operation career pathway.
04.0	Apply leadership and communication skills--The student will be able to:
04.01	Discuss the establishment and history of the SkillsUSA organization.
04.02	Identify the characteristics and responsibilities of organizational leaders.
04.03	Demonstrate parliamentary procedure skills during a meeting.
04.04	Participate in a committee which has an assigned task and report to the class.
04.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
04.06	Use a computer to assist in the completion of a project related to the Architecture & Construction career cluster.
05.0	Describe how information technology is used in the Architecture and Construction career cluster. – The student will be able to:
05.01	Identify information technology (IT) careers in the Architecture and Construction career cluster, including the responsibilities, tasks and skills they require.
05.02	Relate information technology project management concepts and terms to careers in the Architecture and Construction career cluster.
05.03	Manage information technology components typically used in professions of the Architecture and Construction career cluster.
05.04	Identify security-related ethical and legal IT issues faced by professionals in the Architecture and Construction career cluster.
06.0	Use information technology tools. – The student will be able to:
06.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Architecture and Construction career cluster.
06.02	Use e-mail clients to send simple messages and files to other Internet users.

CTE Standards and Benchmarks	
06.03	Demonstrate ways to communicate effectively using Internet technology.
06.04	Use different types of web search engines effectively to locate information relevant to the Architecture and Construction career cluster.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

SkillsUSA is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Introduction to Architecture & Construction and Career Planning***
Course Type: **Orientation/Exploratory**
Career Cluster: **Architecture & Construction**

Secondary – Middle School	
Course Number	8109360
CIP Number	148109360M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA

*Effective July 1, 2017, there is no longer a promotion requirement for middle grades students to complete a Career and Education Planning course. However, these courses will continue to be available and should be taught integrating the eight career and education planning course standards. The MyCareerShines powered by Kuder® career planning system is available free of charge to all Florida middle and high schools to assist students in exploring career options and developing an academic and career plan.

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Architecture & Construction career cluster. The content includes but is not limited to careers in designing, planning, managing, building and maintaining the built environment. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length

Course Number	Course Title	Teacher Certification	Length
8109360	Introduction to Architecture & Construction and Career Planning	TEC ED 1@2 ENG&TEC ED1@2 BLDG CONST @7 7G BLDG MAINT @7 7G DRAFTING @7 7G	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Demonstrate an understanding of the Design/ Pre-Construction career pathway.
02.0 Demonstrate an understanding of the Construction career pathway.
03.0 Demonstrate an understanding of the Maintenance/ Operation career pathway.
04.0 Apply leadership and communication skills.
05.0 Describe how information technology is used in the Architecture and Construction career cluster.
06.0 Use information technology tools.

Listed below are the eight career and education planning course standards:

07.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.
08.0 Develop skills to locate, evaluate, and interpret career information.
09.0 Identify and demonstrate processes for making short and long term goals.
10.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
11.0 Understand the relationship between educational achievement and career choices/postsecondary options.
12.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.
13.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
14.0 Demonstrate knowledge of technology and its application in career fields/clusters.

Florida Department of Education
Student Performance Standards

Course Title: **Introduction to Architecture & Construction and Career Planning**
Course Number: **8109360**
Course Length: **Semester**

Course Description:

Beginning with a broad overview of the Architecture & Construction career cluster, students are introduced to the terminology, careers, history, required skills, and technologies associated with each pathway in the Architecture & Construction career cluster. Additionally, they will be provided with opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks	
01.0	Demonstrate an understanding of the Design/ Pre-Construction career pathway--The student will be able to:
01.01	Define and use proper terminology associated with the Design/ Pre-Construction career pathway.
01.02	Describe some of the careers available in the Design/ Pre-Construction career pathway.
01.03	Identify common characteristics of the careers in the Design/ Pre-Construction career pathway.
01.04	Research the history of the Design/ Pre-Construction career pathway and describe how the associated careers have evolved and impacted society.
01.05	Identify skills required to successfully enter any career in the Design/Pre-Construction career pathway.
01.06	Describe technologies associated in careers within the Design/ Pre-Construction career pathway.
02.0	Demonstrate an understanding of the Construction career pathway--The student will be able to:
02.01	Define and use proper terminology associated with the Construction career pathway.
02.02	Describe some of the careers available in the Construction career pathway.
02.03	Identify common characteristics of the careers in the Construction career pathway.
02.04	Research the history of the Construction career pathway and describe how the careers have evolved and impacted society.
02.05	Identify skills required to successfully enter any career in the Construction career pathway.
02.06	Describe technologies associated in careers within the Construction career pathway.

CTE Standards and Benchmarks	
03.0	Demonstrate an understanding of the Maintenance/ Operation career pathway--The student will be able to:
03.01	Define and use proper terminology associated with the Maintenance/ Operation career pathway.
03.02	Describe some of the careers available in the Maintenance/ Operation career pathway.
03.03	Identify common characteristics of the careers in the Maintenance/ Operation career pathway.
03.04	Research the history of the Maintenance/ Operation career pathway and describe how the careers have evolved and impacted society.
03.05	Identify skills required to successfully enter any career in the Maintenance/ Operation career pathway.
03.06	Describe technologies associated in careers within the Maintenance/ Operation career pathway.
04.0	Apply leadership and communication skills--The student will be able to:
04.01	Discuss the establishment and history of the SkillsUSA organization.
04.02	Identify the characteristics and responsibilities of organizational leaders.
04.03	Demonstrate parliamentary procedure skills during a meeting.
04.04	Participate in a committee which has an assigned task and report to the class.
04.05	Demonstrate effective communication skills through delivery of a speech, a slide presentation, or conducting a demonstration.
04.06	Use a computer to assist in the completion of a project related to the Architecture & Construction career cluster.
05.0	Describe how information technology is used in the Architecture and Construction career cluster. – The student will be able to:
05.01	Identify information technology (IT) careers in the Architecture and Construction career cluster, including the responsibilities, tasks and skills they require.
05.02	Relate information technology project management concepts and terms to careers in the Architecture and Construction career cluster.
05.03	Manage information technology components typically used in professions of the Architecture and Construction career cluster.
05.04	Identify security-related ethical and legal IT issues faced by professionals in the Architecture and Construction career cluster.
06.0	Use information technology tools. – The student will be able to:
06.01	Identify the functions of web browsers, and use them to access the World Wide Web and other computer resources typically used in the Architecture and Construction career cluster.
06.02	Use e-mail clients to send simple messages and files to other Internet users.

CTE Standards and Benchmarks	
06.03	Demonstrate ways to communicate effectively using Internet technology.
06.04	Use different types of web search engines effectively to locate information relevant to the Architecture and Construction career cluster.
Listed below are the eight career and education planning course standards: The student will be able to**:**	
07.0	Describe the influences that societal, economic, and technological changes have on employment trends and future training.
08.0	Develop skills to locate, evaluate, and interpret career information.
09.0	Identify and demonstrate processes for making short and long term goals.
10.0	Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.
11.0	Understand the relationship between educational achievement and career choices/postsecondary options.
12.0	Identify a career cluster and related pathways that match career and education goals.
13.0	Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.
14.0	Demonstrate knowledge of technology and its application in career fields/clusters.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

SkillsUSA is the intercurricular career and technical student organization for providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Program Title: **Fundamentals of Architecture and Construction**
Program Type: **Orientation/Exploratory**
Career Cluster: **Architecture and Construction**

Secondary – Middle School	
Program Number	8130300
CIP Number	148130300M
Grade Level	6-8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	SkillsUSA

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Architecture and Construction career cluster. The content includes but is not limited to investigating careers, reading and drawing plans and constructing models. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8130300	Fundamentals of Architecture and Construction	TEC ED 1@2 ENG&TEC ED1@2 BLDG CONST @7 7G BLDG MAINT @7 7G DRAFTING @7 7G	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills.
For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Investigate careers and entry requirements within the design/ preconstruction pathway.
02.0 Use safe work practices.
03.0 Read and interpret basic construction documents and specifications.
04.0 Draw basic plans by hand.
05.0 Read civil, architectural and mechanical, electrical and plumbing (MEP) drawings.
06.0 Investigate careers and entry requirements within the construction pathway.
07.0 Plan the construction of a model or architectural detail from a set of plans.
08.0 Construct a model or architectural detail from plans and specifications.
09.0 Investigate careers and entry requirements within the operation and maintenance pathway.
10.0 Analyze the impact of design decisions on building operations and maintenance.
11.0 Explain sustainability issues related to the design, construction and maintenance of the built environment.
12.0 Identify components of network systems.
13.0 Describe and use communication features of information technology.

Florida Department of Education
Student Performance Standards

Course Title: **Fundamentals of Architecture and Construction**
Course Number: **8130300**
Course Length: **Semester**

Course Description:

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the Architecture and Construction career cluster. The content includes but is not limited to investigating careers, reading and drawing plans and constructing models.

CTE Standards and Benchmarks	
01.0	Investigate careers and entry requirements within the design/ preconstruction pathway--The student will be able to:
01.01	Describe careers in design/preconstruction (e.g. architects, interior designers, drafters, engineers - civil, MEP and structural, urban and regional planners, etc.)
01.02	Explain educational and training pathways necessary for these careers.
01.03	Research and present information on a design / preconstruction career including roles and responsibilities, opportunities for employment and the requirements for education and training.
02.0	Use safe work practices--The student will be able to:
02.01	Comply with all applicable basic Occupational Safety and Health Administration (OSHA) rules and regulations.
02.02	Use appropriate safety equipment.
02.03	Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments and work ethics.
03.0	Read and interpret basic construction documents and specifications--The student will be able to:
03.01	Name various types of drawings used in construction documents and explain their purpose.
03.02	Locate sections, elevations and details indicated on the floor plan within the set of construction documents.
03.03	Select and use appropriate architectural scales for various drawings.
03.04	Identify various symbols and terminology used in construction documents.

CTE Standards and Benchmarks	
	03.05 Read and interpret specifications.
	03.06 Explain the scope and purpose of building codes and regulations.
04.0	Draw basic plans by hand--The student will be able to:
	04.01 Draw plans and corresponding elevations, sections and details.
	04.02 Apply appropriate architectural scales to drawings.
	04.03 Apply basic building codes in drawings.
	04.04 Create door, window and finish schedules.
05.0	Read civil, architectural and mechanical, electrical and plumbing (MEP) drawings--The student will be able to:
	05.01 Locate civil plans within a construction documents set, identify defining features and state the importance of these plans.
	05.02 Locate architectural plans within a construction documents set, identify defining features and state the importance of these plans.
	05.03 Locate mechanical plans within a construction documents set, identify defining features and state the importance of these plans.
	05.04 Locate electrical plans within a construction documents set, identify defining features and state the importance of these plans.
	05.05 Locate plumbing plans within a construction documents set, identify defining features and state the importance of these plans.
	05.06 Name types of careers associated with the development of civil, architectural and mechanical, electrical and plumbing (MEP) drawings.
06.0	Investigate careers and entry requirements within the construction pathway--The student will be able to:
	06.01 Describe careers in design/preconstruction (e.g. managers - project managers, project engineers, estimators, superintendents; sub-contractors and tradespersons - carpenters, masons, electricians, plumbers, HVAC technicians; etc.)
	06.02 Explain educational and training pathways available for these careers.
	06.03 Research and present information on a construction career including roles and responsibilities, opportunities for employment and the requirements for education and training.
07.0	Plan the construction of a model or architectural detail from a set of plans--The student will be able to:
	07.01 Calculate material quantities and costs.
	07.02 Determine the critical path as a progression of construction activities.
	07.03 Draw a bar chart depicting construction schedule.

CTE Standards and Benchmarks	
08.0	Construct a model or architectural detail from plans and specifications--The student will be able to:
08.01	Use appropriate tools while demonstrating safe work practices.
08.02	Apply proper cutting and fastening techniques for basic model materials.
09.0	Investigate careers and entry requirements within the operation and maintenance pathway--The student will be able to:
09.01	Describe careers in operation and maintenance (energy auditors; building inspectors; system installers - HVAC, telecommunications, security/fire, solar, etc.; maintenance technicians; hazardous materials removers; environmental engineers).
09.02	Explain educational and training pathways necessary for these careers.
09.03	Research and present information on an operation and maintenance career including roles and responsibilities, opportunities for employment and the requirements for education and training.
10.0	Analyze the impact of design decisions on building operations and maintenance--The student will be able to:
10.01	Compare life-cycle costs for various building materials and/ or systems within the built environment.
10.02	Explain maintenance procedures for specific products or materials.
11.0	Explain sustainability issues related to the design, construction and maintenance of the built environment--The student will be able to:
11.01	Describe the impact of the construction industry on the natural environment.
11.02	Identify sustainable alternatives to conventional practices.
11.03	Identify specific practices that can lessen adverse impacts on the environment.
12.0	Identify components of network systems related to the Architecture and Construction industry--The student will be able to:
12.01	Identify structure to access internet, including hardware and software components.
12.02	Identify and configure user customization features in web browsers, including preferences, caching, and cookies.
12.03	Recognize essential database concepts.
12.04	Define and use additional networking and internet services.
13.0	Describe and use communication features of information technology--The student will be able to:
13.01	Define important internet communications protocols and their roles in delivering basic Internet services.
13.02	Identify basic principles of the Domain Name System (DNS).

CTE Standards and Benchmarks
13.03 Identify security issues related to Internet clients.
13.04 Identify and use principles of Personal Information Management (PIM), including common applications.
13.05 Efficiently transmit text and binary files using popular Internet services.
13.06 Conduct a webcast and related services.
13.07 Represent technical issues to a non-technical audience.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

SkillsUSA is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Florida Department of Education
Curriculum Framework

Course Title: **Orientation to Career Clusters**
Course Type: **Orientation/Exploratory**

Secondary – Middle School	
Course Number	8000400
CIP Number	1498999907
Grade Level	6 – 8
Standard Length	Semester
Teacher Certification	Refer to the **Course Structure** section.
CTSO	Any CTSO as appropriate

Purpose

The purpose of this course is to assist students in making informed decisions regarding their future academic and occupational goals and to provide information regarding careers in the seventeen career clusters. This course is a compilation of modules for each of the seventeen career clusters and is designed to provide flexibility in course offerings. Any number of modules can be selected to comprise a course that meets the needs of the students.

The content includes, but is not limited to, the orientation of students to career pathways in the career and technical education field. Reinforcement of academic skills occurs through classroom instruction and applied laboratory procedures. This course is recommended for students in the sixth grade, but not required.

Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials and technology appropriate to the course content and in accordance with current practices.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Course Structure

The length of this course is one semester. It may be offered for two semesters when appropriate. When offered for one semester, it is recommended that it be at the exploratory level and more in-depth when offered for two semesters.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the course structure:

Course Number	Course Title	Teacher Certification	Length
8000400	Orientation to Career Clusters	ANY FIELD	Semester

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.SI.1.1

English Language Development (ELD) Standards Special Notes:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition.

Standards

After successfully completing this course, the student will be able to perform the following:

01.0 Identify Florida's seventeen career clusters.
02.0 Identify and explore careers in the Agriculture, Food & Natural Resources cluster.
03.0 Identify and explore careers in the Architecture & Construction cluster.
04.0 Identify and explore careers in the Arts, A/V Technology & Communication cluster.
05.0 Identify and explore careers in the Business Management & Administration cluster.
06.0 Identify and explore careers in the Education & Training cluster.
07.0 Identify and explore careers in the Energy cluster.
08.0 Identify and explore careers in the Finance cluster.
09.0 Identify and explore careers in the Government & Public Administration cluster.
10.0 Identify and explore careers in the Health Science cluster.
11.0 Identify and explore careers in the Hospitality and Tourism cluster.
12.0 Identify and explore careers in the Human Services cluster.
13.0 Identify and explore careers in the Information Technology cluster.
14.0 Identify and explore careers in the Law, Public Safety & Security cluster.
15.0 Identify and explore careers in the Manufacturing cluster.
16.0 Identify and explore careers in the Marketing, Sales & Service cluster.
17.0 Identify and explore careers in the Engineering and Technology Education cluster.
18.0 Identify and explore careers in the Transportation, Distribution & Logistics cluster.
19.0 Describe leadership skills.

Florida Department of Education
Student Performance Standards

Course Title: **Orientation to Career Clusters**
Course Number: **8000400**
Course Credit: **Semester**

Course Description:

This course is a broad overview of the seventeen career clusters offered in Florida. This course provides hands-on introductory activities for each career cluster as well as opportunities to acquire and demonstrate beginning leadership skills.

CTE Standards and Benchmarks	
01.0	Identify Florida's seventeen career clusters – the student will be able to:
01.01	List Florida's seventeen career clusters.
01.02	Research the national career clusters website.
01.03	Identify the Career and Technical Student Organizations (CTSO) appropriate for Career and Technical Education (CTE) programs.
01.04	Explain the purpose of a CTSO.
02.0	Identify and explore careers in the Agriculture, Food & Natural Resources cluster – the student will be able to:
02.01	Identify the pathways in the Agriculture, Food & Natural Resources career cluster and the careers in each pathway.
02.02	Describe the types of places that employ individuals who have careers in the Agriculture, Food & Natural Resources career cluster.
02.03	Describe the variety of tasks performed by individuals who have careers in the Agriculture, Food & Natural Resources career cluster.
02.04	List the skills, abilities, and talents needed for careers in the Agriculture, Food & Natural Resources career cluster.
02.05	Identify the level of training and education required for careers in the Agriculture, Food & Natural Resources career cluster.
02.06	Research a career in the Agriculture, Food & Natural Resources career cluster and present findings to the class.
02.07	Apply math, science, and reading skills in the completion of a project or activity related to the Agriculture, Food & Natural Resources career cluster.
03.0	Identify and explore careers in the Architecture & Construction cluster – the student will be able to:
03.01	Identify the pathways in the Architecture & Construction career cluster and the careers in each pathway.

CTE Standards and Benchmarks	
	03.02 Describe the types of places that employ individuals who have careers in the Architecture & Construction career cluster.
	03.03 Describe the variety of tasks performed by individuals who have careers in the Architecture & Construction career cluster.
	03.04 List the skills, abilities, and talents needed for careers in the Architecture & Construction career cluster.
	03.05 Identify the level of training and education required for careers in the Architecture & Construction career cluster.
	03.06 Research a career in the Architecture & Construction career cluster and present findings to the class.
	03.07 Apply math, science, and reading skills in the completion of a project or activity related to the Architecture & Construction career cluster.
04.0	Identify and explore careers in the Arts, A/V Technology & Communication cluster – the student will be able to:
	04.01 Identify the pathways in the Arts, A/V Technology & Communication career cluster and the careers in each pathway.
	04.02 Describe the types of places that employ individuals who have careers in the Arts, A/V Technology & Communication career cluster.
	04.03 Describe the variety of tasks performed by individuals who have careers in the Arts, A/V Technology & Communication career cluster.
	04.04 List the skills, abilities, and talents needed for careers in the Arts, A/V Technology & Communication career cluster.
	04.05 Identify the level of training and education required for careers in the Arts, A/V Technology & Communication career cluster.
	04.06 Research a career in the Arts, A/V Technology & Communication career cluster and present findings to the class.
	04.07 Apply math, science, and reading skills in the completion of a project or activity related to the Arts, A/V Technology & Communication career cluster.
05.0	Identify and explore careers in the Business, Management & Administration cluster – the student will be able to:
	05.01 Identify the pathways in the Business, Management & Administration career cluster and the careers in each pathway.
	05.02 Describe the types of places that employ individuals who have careers in the Business Management & Administration career cluster.
	05.03 Describe the variety of tasks performed by individuals who have careers in the Business Management & Administration career cluster.
	05.04 List the skills, abilities, and talents needed for careers in the Business Management & Administration career cluster.
	05.05 Identify the level of training and education required for careers in the Business Management & Administration career cluster.
	05.06 Research a career in the Business Management & Administration career cluster and present findings to the class.
	05.07 Apply math, science, and reading skills in the completion of a project or activity related to the Business Management & Administration career cluster.

CTE Standards and Benchmarks	
06.0	Identify and explore careers in the Education & Training cluster – the student will be able to:
06.01	Identify the pathways in the Education & Training career cluster and the careers in each pathway.
06.02	Describe the types of places that employ individuals who have careers in the Education & Training career cluster.
06.03	Describe the variety of tasks performed by individuals who have careers in the Education & Training career cluster.
06.04	List the skills, abilities, and talents needed for careers in the Education & Training career cluster.
06.05	Identify the level of training and education required for careers in the Education & Training career cluster.
06.06	Research a career in the Education & Training career cluster and present findings to the class.
06.07	Apply math, science, and reading skills in the completion of a project or activity related to the Education & Training career cluster.
07.0	Identify and explore careers in the Energy cluster – the student will be able to:
07.01	Identify the pathways in the Energy career cluster and the careers in each pathway.
07.02	Describe the types of places that employ individuals who have careers in the Energy career cluster.
07.03	Describe the variety of tasks performed by individuals who have careers in the Energy career cluster.
07.04	List the skills, abilities, and talents needed for careers in the Energy career cluster.
07.05	Identify the level of training and education required for careers in the Energy career cluster.
07.06	Research a career in the Energy career cluster and present findings to the class.
07.07	Apply math, science, and reading skills in the completion of a project or activity related to the Energy career cluster.
08.0	Identify and explore careers in the Finance cluster – the student will be able to:
08.01	Identify the pathways in the Finance career cluster and the careers in each pathway.
08.02	Describe the types of places that employ individuals who have careers in the Finance career cluster.
08.03	Describe the variety of tasks performed by individuals who have careers in the Finance career cluster.
08.04	List the skills, abilities, and talents needed for careers in the Finance career cluster.
08.05	Identify the level of training and education required for careers in the Finance career cluster.
08.06	Research a career in the Finance career cluster and present findings to the class.

CTE Standards and Benchmarks	
	08.07 Apply math, science, and reading skills in the completion of a project or activity related to the Finance career cluster.
09.0	Identify and explore careers in the Government & Public Administration cluster – the student will be able to:
	09.01 Identify the pathways in the Government & Public Administration career cluster and the careers in each pathway.
	09.02 Describe the types of places that employ individuals who have careers in the Government & Public Administration career cluster.
	09.03 Describe the variety of tasks performed by individuals who have careers in the Government & Public Administration career cluster.
	09.04 List the skills, abilities, and talents needed for careers in the Government & Public Administration career cluster.
	09.05 Identify the level of training and education required for careers in the Government & Public Administration career cluster.
	09.06 Research a career in the Government & Public Administration career cluster and present findings to the class.
	09.07 Apply math, science, and reading skills in the completion of a project or activity related to the Government & Public Administration career cluster.
10.0	Identify and explore careers in the Health Science cluster – the student will be able to:
	10.01 Identify the pathways in the Health Science career cluster and the careers in each pathway.
	10.02 Describe the types of places that employ individuals who have careers in the Health Science career cluster.
	10.03 Describe the variety of tasks performed by individuals who have careers in the Health Science career cluster.
	10.04 List the skills, abilities, and talents needed for careers in the Health Science career cluster.
	10.05 Identify the level of training and education required for careers in the Health Science career cluster.
	10.06 Research a career in the Health Science career cluster and present findings to the class.
	10.07 Apply math, science, and reading skills in the completion of a project or activity related to the Health Science career cluster.
11.0	Identify and explore careers in the Hospitality & Tourism cluster – the student will be able to:
	11.01 Identify the pathways in the Hospitality & Tourism career cluster and the careers in each pathway.
	11.02 Describe the types of places that employ individuals who have careers in the Hospitality & Tourism career cluster.
	11.03 Describe the variety of tasks performed by individuals who have careers in the Hospitality & Tourism career cluster.
	11.04 List the skills, abilities, and talents needed for careers in the Hospitality & Tourism career cluster.
	11.05 Identify the level of training and education required for careers in the Hospitality & Tourism career cluster.

CTE Standards and Benchmarks	
	11.06 Research a career in the Hospitality & Tourism career cluster and present findings to the class.
	11.07 Apply math, science, and reading skills in the completion of a project or activity related to the Hospitality & Tourism career cluster.
12.0	Identify and explore careers in the Human Services cluster – the student will be able to:
	12.01 Identify the pathways in the Human Services career cluster and the careers in each pathway.
	12.02 Describe the types of places that employ individuals who have careers in the Human Services career cluster.
	12.03 Describe the variety of tasks performed by individuals who have careers in the Human Services career cluster.
	12.04 List the skills, abilities, and talents needed for careers in the Human Services career cluster.
	12.05 Identify the level of training and education required for careers in the Human Services career cluster.
	12.06 Research a career in the Human Services career cluster and present findings to the class.
	12.07 Apply math, science, and reading skills in the completion of a project or activity related to the Human Services career cluster.
13.0	Identify and explore careers in the Information Technology cluster – the student will be able to:
	13.01 Identify the pathways in the Information Technology career cluster and the careers in each pathway.
	13.02 Describe the types of places that employ individuals who have careers in the Information Technology career cluster.
	13.03 Describe the variety of tasks performed by individuals who have careers in the Information Technology career cluster.
	13.04 List the skills, abilities, and talents needed for careers in the Information Technology career cluster.
	13.05 Identify the level of training and education required for careers in the Information Technology career cluster.
	13.06 Research a career in the Information Technology career cluster and present findings to the class.
	13.07 Apply math, science, and reading skills in the completion of a project or activity related to the Information Technology career cluster.
14.0	Identify and explore careers in the Law, Public Safety & Security cluster–The student will be able to:
	14.01 Identify the pathways in the Law, Public Safety & Security career cluster and the careers in each pathway.
	14.02 Describe the types of places that employ individuals who have careers in the Law, Public Safety & Security career cluster.
	14.03 Describe the variety of tasks performed by individuals who have careers in the Law, Public Safety & Security career cluster.
	14.04 List the skills, abilities, and talents needed for careers in the Law, Public Safety & Security career cluster.

CTE Standards and Benchmarks	
	14.05 Identify the level of training and education required for careers in the Law, Public Safety & Security career cluster.
	14.06 Research a career in the Law, Public Safety & Security career cluster and present findings to the class.
	14.07 Apply math, science, and reading skills in the completion of a project or activity related to the Law, Public Safety & Security career cluster.
15.0	Identify and explore careers in the Manufacturing cluster – the student will be able to:
	15.01 Identify the pathways in the Manufacturing career cluster and the careers in each pathway.
	15.02 Describe the types of places that employ individuals who have careers in the Manufacturing career cluster.
	15.03 Describe the variety of tasks performed by individuals who have careers in the Manufacturing career cluster.
	15.04 List the skills, abilities, and talents needed for careers in the Manufacturing career cluster.
	15.05 Identify the level of training and education required for careers in the Manufacturing career cluster.
	15.06 Research a career in the Manufacturing career cluster and present findings to the class.
	15.07 Apply math, science, and reading skills in the completion of a project or activity related to the Manufacturing career cluster.
16.0	Identify and explore careers in the Marketing, Sales & Service cluster – the student will be able to:
	16.01 Identify the pathways in the Marketing, Sales & Service career cluster and the careers in each pathway.
	16.02 Describe the types of places that employ individuals who have careers in the Marketing, Sales & Service career cluster.
	16.03 Describe the variety of tasks performed by individuals who have careers in the Marketing, Sales & Service career cluster.
	16.04 List the skills, abilities, and talents needed for careers in the Marketing, Sales & Service career cluster.
	16.05 Identify the level of training and education required for careers in the Marketing, Sales & Service career cluster.
	16.06 Research a career in the Marketing, Sales & Service career cluster and present findings to the class.
	16.07 Apply math, science, and reading skills in the completion of a project or activity related to the Marketing, Sales & Service career cluster.
17.0	Identify and explore careers in Engineering and Technology Education – the student will be able to:
	17.01 Identify the pathways in Engineering and Technology Education.
	17.02 Describe the types of places that employ individuals who have careers in Engineering and Technology Education.
	17.03 Describe the variety of tasks performed by individuals who have careers in Engineering and Technology Education.

CTE Standards and Benchmarks	
	17.04 List the skills, abilities, and talents needed for careers in Engineering and Technology Education.
	17.05 Identify the level of training and education required for careers in Engineering and Technology Education.
	17.06 Research a career in Engineering and Technology Education and present findings to the class.
	17.07 Apply math, science, and reading skills in the completion of a project or activity related to the Engineering and Technology Education.
18.0	Identify and explore careers in the Transportation & Logistics cluster – the student will be able to:
	18.01 Identify the pathways in the Transportation & Logistics career cluster and the careers in each pathway.
	18.02 Describe the types of places that employ individuals who have careers in the Transportation & Logistics career cluster.
	18.03 Describe the variety of tasks performed by individuals who have careers in the Transportation & Logistics career cluster.
	18.04 List the skills, abilities, and talents needed for careers in the Transportation & Logistics career cluster.
	18.05 Identify the level of training and education required for careers in the Transportation & Logistics career cluster.
	18.06 Research a career in the Transportation & Logistics career cluster and present findings to the class.
	18.07 Apply math, science, and reading skills in the completion of a project or activity related to the Transportation & Logistics career cluster.
19.0	Describe leadership skills – the student will be able to:
	19.01 Identify the Career and Technical Student Organization(s) that are appropriate for CTE programs in each of the career clusters.
	19.02 Describe the leadership opportunities available to members of the CTSOs identified above.
	19.03 Investigate the CTSOs at your school and/or in your school district (e.g., membership requirements, dues, activities, events).

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student.

Career and Technical Student Organization (CTSO)

The Florida Technology Student Association (FL-TSA) is the intercurricular career and technical student organization for providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.