

MATHEMATICS PATHWAYS LIST

To facilitate seamless transfer of credits, reduce excess credit hours, and ensure students take the courses needed for their future careers, section 1007.23(3), Florida Statutes, requires the statewide articulation agreement to establish three mathematics pathways for students by aligning mathematics courses to programs, meta-majors, and careers.

Public postsecondary institutions in Florida are required to align associate and baccalaureate degree program requirements to one of the three mathematics pathways identified on the Mathematics Pathways List. Students entering a Florida College System (FCS) institution in the 2024-2025 academic year and thereafter must be advised of the mathematics pathways that align with their intended academic and career pathways, including the gateway course associated with that pathway and any subsequent mathematics coursework that aligns with the pathway's learning outcomes as identified in the Mathematics Pathways List.

Mathematics Pathways

1. Algebra through Calculus Pathway

Gateway Course(s): MAC X105 College Algebra and MAC X311 Calculus I.

Students in the Algebra through Calculus pathway must be advised to enroll in coursework that includes the following student learning outcomes.

- Demonstrate the knowledge of various algebraic relationships and their application.
- Employ computational techniques to mathematical problem solving.
- Execute appropriate mathematical modeling techniques for solving application problems and interpret results of solutions.
- Develop graphical models using algebraic and problem-solving techniques.
- Articulate a working knowledge of various functions and their application, as appropriate.

2. Statistical Reasoning

Gateway Course(s): STA X023.

Students in the Statistical Reasoning pathway must be advised to enroll in coursework that includes the following student learning outcomes.

- Analyze data using graphical and numerical methods to study patterns and departures from patterns, using appropriate technology as needed.
- Critically evaluate a data-collection plan to answer a given research question.
- Use probability concepts and simulation.
- Use statistical models to draw conclusions from data.
- Perform correlation and regression analyses.
- Apply statistical reasoning and data analysis to real-world or major-specific examples.

3. Mathematical Thinking in Context

Gateway Course(s): MGF X130 and MGF X131.

Students in the Mathematical Thinking in Context pathway must be advised to enroll in coursework that includes the following student learning outcomes.

- Determine efficient means of solving a problem through investigation of multiple mathematical models.
- Apply logic in contextual situations to formulate and determine the validity of logical statements using a variety of methods.
- Apply mathematical concepts visually and contextually to represent, interpret and reason about geometric figures.
- Apply mathematical models to civically contextual situations (e.g., stocks, finance, voting, population dynamics, etc.).
- Recognize the characteristics of numbers and utilize numbers along with their operations appropriately in context.
- Organize, visualize and model data in a meaningful way.
- Analyze and interpret representations of data to draw reasonable conclusions.
- Engage in ways of thinking that may involve sample size, counting strategies, chance, ratios and proportions.