Mathematics Major

DEPARTMENT OF COMPUTATIONAL AND INFORMATION SCIENCES

The Department of Computational and Information Sciences offers a Baccalaureate degree in mathematics and seeks to provide the background requisite for employment and/or advanced study. The department provides to all students the mathematics and computer science courses required to satisfy the general education standards appropriate for a four-year, liberal arts college. The department offers courses at a variety of introductory levels to accommodate students of varying backgrounds and abilities. A major in mathematics combines pure and applied studies, allowing for some concentration in each and may lead to careers in teaching, industry, and government. Students who major in Mathematics can seek secondary education certification in Math by taking the identified courses in Education and completing the GPA and testing requirements for certification. Students interested in this option should speak with their academic advisors or with a faculty member in the Department of Education.

MATHEMATICS MAJOR

Student Learning Outcomes

Upon completion of the Mathematics major, students will be able to:

1. Understand fundamental concepts and theorems in analysis, algebra, geometry, and logic (Content).

2. Identify and use suitable methods applicable to solve a given mathematical problem (Critical Thinking).

3. Use rigor and logic to construct and evaluate mathematical arguments (Communication, Critical Thinking).

4. Recognize and use different representations of mathematical concepts and processes (Content, Critical Thinking).

5. Effectively communicate mathematical content using proper terms and notation (Communication).

Program Outcomes

As a result of successful completion of the Mathematics Program, graduates will:

1. Be able to be employed in an area related to the major or admitted to graduate school.

2. Be exposed to research through summer internship experiences in mathematics or related fields.

3. Be involved in community service to promote the study and use of mathematics.

Semester Plan

Included below is a sample semester-by-semester program for a Mathematics major.

Degree Type
Bachelor of Science

Major in Mathematics

A program of study consists of a minimum of 39 semester hours in mathematics beyond MAT 134, of which 15 hours must be taken at Stillman College. Required courses are:

Item #	Title	Credits
MAT 145	Calculus I	4
MAT 146	Calculus II	4
MAT 241	Calculus III	4
MAT 234	Discrete Math I	3
MAT 331	Linear Algebra	3
MAT 332	Abstract Algebra	3
MAT 333	Differential Equations	3
MAT 336	Modern Geometry	3
MAT 431	Introduction to Real Analysis	3
CSC 131	Introduction to Computing	3

Major in Mathematics - Electives

An additional 6 hours in mathematics must be selected from the following:

Elective courses must be approved by a departmental advisor and will include at least two mathematics courses unless the student earns a double major or completes the requirements for certification in education.

Item #	Title	Credits
MAT 233	Introduction to Statistics	3
MAT 335	Discrete Math II	3
MAT 334	Numerical Analysis and Simulation	3
MAT 430	Seminar in the History and Philosophy of Mathematics	3

Minor in Mathematics

A minor in mathematics consists of a minimum of 21 credit hours. The following courses are required for a minor in mathematics:

Item #	Title	Credits
MAT 145	Calculus I	4
MAT 146	Calculus II	4
MAT 241	Calculus III	4
MAT 234	Discrete Math I	3
MAT 331	Linear Algebra	3
MAT 333	Differential Equations	3
	Total Credits	**6**

Major in Mathematics FRESHMAN YEAR Fall Semester

Item #	Title	Credits
MAT 145	Calculus I	4
ENG 131	English Composition I	3
REL 131	Introduction to the Old Testament	3
BIO 131	Life Science	3
CSC 121	Critical Thinking in Digital Age	2
STI 111	Orientation	1

FRESHMAN YEAR Spring Semester

Item #	Title	Credits
MAT 146	Calculus II	4
HIS 131	Foundations of World Civilization	3
ENG 132	English Composition II	3
REL 132	Introduction to the New Testament	3
HUM 130	African American Heritage	3
STI 114	Orientation II	1

SOPHOMORE YEAR Fall Semester

Item #	Title	Credits
MAT 241	Calculus III	4
	General Elective (3 credits)	3
HPR 121	Lifetime Wellness	2
BUS 210	Financial Literacy	1
PSY 230	Introduction to Psychology	3
CSC 131	Introduction to Computing	3

SOPHOMORE YEAR Spring Semester

Item #	Title	Credits
MAT 233	Introduction to Statistics	3
MAT 234	Discrete Math I	3
	General Elective (3 credits)	3
PHY 131	Physical Science	3
	200-level Religion	3

JUNIOR YEAR Fall Semester

Item #	Title	Credits
MAT 331	Linear Algebra	3
	300-level Religion	3
ENG 235	Technical Writing	3
MAT 333	Differential Equations	3
	General Elective (3 credits)	3

JUNIOR YEAR Spring Semester

Item #	Title	Credits
MAT 332	Abstract Algebra	3
MAT 336	Modern Geometry	3
SPE 232	Public Speaking	3
EDU 310	Test Taking Strategies	1
LOG 330	Logic	3
	General Elective (2 credits)	2

SENIOR YEAR Fall Semester

Item #	Title	Credits
MAT 431	Introduction to Real Analysis	3
MAT 335	Discrete Math II	3
	General Elective (3 credits)	3
	General Elective (3 credits)	3
	General Elective (3 credits)	3

SENIOR YEAR Spring Semester

Item #	Title	Credits
MAT 430	Seminar in the History and Philosophy of Mathematics	3
MAT 334	Numerical Analysis and Simulation	3
	General Elective (3 credits)	3
	General Elective (3 credits)	3