

MATHEMATICS MAJOR

Requirements

For a 51-credit major in mathematics, students complete the following:

Code	Title	Credits
MA 0151	Functional Programming ¹	3
MA 0171	Calculus I	4
MA 0172	Calculus II	4
MA 0231	Discrete Mathematics	3
MA 0235	Linear Algebra	3
MA 0273	Multivariable Calculus	4
MA 0334	Abstract Algebra	3
MA 0371	Real Analysis	3
Select six 300-level mathematics electives		18
Select two semesters of a laboratory science ²		6
Mathematics Capstone ³		
Total Credits		51

- ¹ An equivalent course may be substituted. Students who can demonstrate proficiency in a computer programming language can have this requirement waived by the department chair.
- ² This also fulfills the natural science core requirement. Although physics is the usual science taken by majors in mathematics, another laboratory science may be substituted with permission of the chair.
- ³ All mathematics majors must complete a two-part Capstone Experience consisting of completion of the Senior Comprehensive Exam in Mathematics in the spring of their senior year and attendance at five or more Mathematics Department Colloquia (or equivalent) in their junior and senior years. Results are noted on the transcript as follows: Senior Comprehensive Exam in Mathematics "Passed with Distinction" or "Passed" or "Failed"; Capstone Experience in Mathematics: "Completed" or "Not Completed."

Students who wish to double major in mathematics and another area are encouraged to meet with the chairs of the respective departments so that appropriate modifications to the requirements can be made to allow these students to graduate in four years. Popular double majors with mathematics include computer science, economics, and physics.

Mathematics majors are required to have a graphing calculator at least as powerful as a TI-84.

Honors Seminar

Students who take the MA 0390 or MA 0391 Honors Seminar receive three credits for one of their mathematics electives upon completion of one semester of MA 0390 or MA 0391. Students who complete both MA 0390 and MA 0391 earn six credits: the first semester counts as a 3-credit mathematics elective, while the second counts as a 3-credit free elective.

Students Interested in Teaching Mathematics in High School or Middle School

Students planning a career in secondary education should consult with the department chair, and with the Graduate School of Education and Allied Professions, as early as possible. Consult the catalog section for the Program in Education (<https://catalog.fairfield.edu/undergraduate/arts-sciences/education>) for information concerning requirements for the Five-Year Integrated Bachelor's and Master's Degree program in Secondary Education with Initial 7-12 Certification.

Plan of Study

The curriculum given below represents a typical option for completing the major in mathematics.

Course	Title	Credits
First Year		
Fall		
MA 0151	Functional Programming	3
MA 0171	Calculus I	4
Core Courses		9
Credits		16
Spring		
MA 0172	Calculus II	4
Core Courses		12
Credits		16
Second Year		
Fall		
MA 0231	Discrete Mathematics	3
MA 0273	Multivariable Calculus	4
Core Courses		9
Credits		16
Spring		
MA 0235	Linear Algebra	3
Math Elective		3
Core Courses		9
Credits		15
Third Year		
Fall		
MA 0334	Abstract Algebra	3
MA 0371	Real Analysis	3
Laboratory Science		4
Core Courses		6
Credits		16
Spring		
Math Electives		6
Laboratory Science		4
Core Course		3
Elective Course		3
Credits		16

Fourth Year

Fall

Math Electives	6
Elective Courses	9
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Credits	15

Spring

Math Elective	3
Elective Courses	9
Mathematics Comprehensive Exam	0
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Credits	12
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Total Credits	122