

# Mathematics

Mathematics is a grouping of sciences, including geometry, algebra, and calculus, that study quantity, structure, space, and change. Mathematics concentrators at Brown can explore these concepts through the department's broad course offerings and flexible concentration requirements. The concentration leads to either the Bachelor of Arts or Bachelor of Science degree (the latter is strongly recommended for students interested in pursuing graduate study in mathematics or related fields). Concentrators begin their learning with multivariable calculus, linear algebra, and abstract algebra. Beyond these prerequisites, students take a variety of advanced topics on the 1000 and 2000 level based on their interests. Students also have the option of completing a thesis project.

Concentrators in mathematics should complete the prerequisites by the end of their sophomore year. It is strongly recommended that students take MATH 1010 before taking MATH 1130.

## Standard program for the A.B. degree

### Prerequisites:

Multivariable calculus and linear algebra (choose one of the following sequences): 2

MATH 0180 & MATH 0520 Intermediate Calculus and Linear Algebra

MATH 0180 & MATH 0540 Intermediate Calculus and Honors Linear Algebra

MATH 0200 & MATH 0520 Intermediate Calculus (Physics/Engineering) and Linear Algebra

MATH 0350 & MATH 0540 Honors Calculus and Honors Linear Algebra

Or the equivalent

### Program:

MATH 1530 Abstract Algebra 1

Five other 1000- or 2000-level Mathematics courses 5

Total Credits 8

## Standard program for the Sc.B. degree

### Prerequisites:

Multivariate calculus and linear algebra (choose one of the following sequences): 2

MATH 0180 & MATH 0520 Intermediate Calculus and Linear Algebra

MATH 0180 & MATH 0540 Intermediate Calculus and Honors Linear Algebra

MATH 0200 & MATH 0520 Intermediate Calculus (Physics/Engineering) and Linear Algebra

MATH 0350 & MATH 0540 Honors Calculus and Honors Linear Algebra

Or the equivalent

### Program:

MATH 1130 & MATH 1140 Functions of Several Variables and Functions Of Several Variables 2

MATH 1530 Abstract Algebra 1

MATH 1540 Topics in Abstract Algebra 1  
or MATH 1560 Number Theory

Four other 1000- or 2000- level Mathematics courses. 4

Four additional courses in mathematics, science, economics, or applied mathematics approved by the concentration advisor. 4

Total Credits 14

## Honors

Honors degrees may be recommended for students who have exhibited high achievement in mathematics. Candidates must complete at least eight mathematics courses at the 1000 or 2000 level with sufficiently good grades and must write an honors thesis under the guidance of a faculty member. The honors thesis is usually written while the candidate is enrolled in MATH 1970. The candidate should consult with the concentration advisor for the precise grade requirements.

Those interested in graduate study in mathematics are encouraged to take:

MATH 1130	Functions of Several Variables
MATH 1140	Functions Of Several Variables
MATH 1260	Complex Analysis
MATH 1410	Combinatorial Topology
MATH 1540	Topics in Abstract Algebra

## **Font Notice**

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Helvetica was used instead of Arial.

The editor may contact Leepfrog for a draft with the correct fonts in place.