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 level based on their interests. After sufficient preparation and with permission of the instructor, students may also take courses on the 2000 level. 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 1630, (formerly MATH 1130).

Prerequisites:

Multivariable calculus and linear algebra (choose one of the following sequences):		2
MATH 0180 & MATH 0520	Multivariable Calculus and Linear Algebra	
MATH 0180 & MATH 0540	Multivariable Calculus and Linear Algebra With Theory	
MATH 0200 & MATH 0520	Multivariable Calculus (Physics/ Engineering) and Linear Algebra	
MATH 0350 & MATH 0540	Multivariable Calculus With Theory and Linear Algebra With Theory	
Or the equivalent		

Program:

MATH 1530	Abstract Algebra	1
Five other 1000- or 2000-level Mathematics courses . The year-long sequence 0750/0760 may be substituted for one of these course credits.		5
Total Credits		**8**

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.

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 1630, (formerly MATH 1130).

Standard program for the Sc.B. degree

Prerequisites:

Multivariate calculus and linear algebra (choose one of the following sequences):		2
MATH 0180 & MATH 0520	Multivariable Calculus and Linear Algebra	
MATH 0180 & MATH 0540	Multivariable Calculus and Linear Algebra With Theory	
MATH 0200 & MATH 0520	Multivariable Calculus (Physics/ Engineering) and Linear Algebra	
MATH 0350 & MATH 0540	Multivariable Calculus With Theory and Linear Algebra With Theory	
Or the equivalent		

Program:

MATH 1630	Real Analysis I (formerly MATH 1130)	1
MATH 1640	Real Analysis II (formerly MATH 1140)	1
MATH 1530	Abstract Algebra	1
MATH 1540 or MATH 1560	Topics in Abstract Algebra Number Theory	1
Four other 1000- or 2000- level Mathematics courses. The year-long sequence 0750/0760 may be substituted for one of these course credits.		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 1630	Real Analysis I (formerly MATH 1130)
MATH 1640	Real Analysis II (formerly MATH 1140)
MATH 1460	Complex Analysis (formerly MATH 1260)
MATH 1710	Topology (formerly MATH 1410)
MATH 1540	Topics in Abstract Algebra