# MATHEMATICS MAJOR

## Requirements

Eleven courses beyond Calculus 1 and Calculus 2 are required to receive the Bachelor of Arts in mathematics.

| Course | Title | Credits |
|---|---|---|
| **Required Courses** | | |
| MATH 2001 | Discrete Mathematics | 4 |
| MATH 2004 | Multivariable Calculus I | 4 |
| MATH 2006 | Linear Algebra I | 4 |
| MATH 3005 | Abstract Algebra I | 4 |
| **Computer Programming (choose one of the following options):** | | |
| *Option 1* | | |
| MATH 2011 | Programming for Math and Science | |
| *Option 2 (if chosen, both sequences are required)* | | |
| CISC 1600<br>& CISC 1610 | Computer Science I<br>and Computer Science I Lab | |
| CISC 2000<br>& CISC 2010 | Computer Science II<br>and Computer Science II Lab | |
| **Concentration** | | |
| Select one of the following concentrations: | | 16 |
| *Pure Mathematics Concentration* | | |
| MATH 3001 | Linear Algebra II | |
| MATH 3003 | Real Analysis | |
| MATH 3004 | Complex Analysis | |
| MATH 4009 | Topics in Geometry | |
| *Applied Mathematics Concentration* | | |
| MATH 3002 | Differential Equations | |
| MATH 3006 | Probability | |
| MATH 3007 | Statistics | |
| MATH 4006 | Numerical Analysis | |
| **Electives** | | |
| Select two electives. Must be four credit MATH courses numbered 2000 or higher [1] | | |

[1] Any course with the MATH subject code may fulfill this requirement.

### Additional Information

To graduate with a mathematics major, a student must have a cumulative grade point average of at least 2.0 in all courses in the major.

Prospective mathematics majors should consult with the chair before constructing a plan of study.

## Bachelor of Science Degree

The above courses are required to receive the degree of Bachelor of Arts in mathematics. To receive the Bachelor of Science degree, students must also complete **one of the following nine sequences** of courses; all courses listed under the chosen option (1-9) must be completed:

| Course | Title | Credits |
|---|---|---|
| **For Rose Hill students:** | | |
| *(1) Introductory Biology* | | |
| BISC 1403<br>& BISC 1413 | Introductory Biology I<br>and Introductory Biology Lab I | 5 |
| BISC 1404<br>& BISC 1414 | Introductory Biology II<br>and Introductory Biology Lab II | 5 |
| *(2) General Chemistry* | | |
| CHEM 1321<br>& CHEM 1311<br>& CHEM 1331 | General Chemistry I<br>and General Chemistry I Recitation<br>and General Chemistry Lab I | 6 |
| CHEM 1322<br>& CHEM 1312<br>& CHEM 1332 | General Chemistry II<br>and General Chemistry II Recitation<br>and General Chemistry Lab II | 6 |
| *(3) Introduction to Physics* | | |
| PHYS 1601<br>& PHYS 1603<br>& PHYS 1511 | Introduction to Physics I<br>and Introduction to Physics I Recitation<br>and Physics I Lab | 5 |
| PHYS 1602<br>& PHYS 1604<br>& PHYS 1512 | Introduction to Physics II<br>and Introduction to Physics II Recitation<br>and Physics II Lab | 5 |
| *(4) Physics* | | |
| PHYS 1701<br>& PHYS 1703<br>& PHYS 1511 | Physics I<br>and Physics I Recitation<br>and Physics I Lab | 4 |
| PHYS 1702<br>& PHYS 1704<br>& PHYS 1512 | Physics II<br>and Physics II Recitation<br>and Physics II Lab | 4 |
| **For Lincoln Center students:** | | |
| *(5) General Biology* | | |
| NSCI 1403<br>& NSCI 1413 | General Biology Lecture I<br>and General Biology Lab I | 5 |
| NSCI 1404<br>& NSCI 1414 | General Biology Lecture II<br>and General Biology Lab II | 5 |
| *(6) Concepts in Biology* | | |
| NSCI 1423<br>& NSCI 1433 | Concepts in Biology Lecture I<br>and Concepts in Biology Lab I | 5 |
| NSCI 1424<br>& NSCI 1434 | Concepts in Biology Lecture II<br>and Concepts in Biology Lab II | 5 |
| *(7) General Chemistry* | | |
| NSCI 1321<br>& NSCI 1331 | General Chemistry Lecture I<br>and General Chemistry Lab I | 6 |
| NSCI 1322<br>& NSCI 1332 | General Chemistry Lecture II<br>and General Chemistry Lab II | 6 |
| *(8) Physics I and II* | | |
| NSCI 1701<br>& NSCI 1703<br>& NSCI 1511 | Physics I<br>and Physics I Recitation<br>and General Physics Lab I | 4 |
| NSCI 1702<br>& NSCI 1704<br>& NSCI 1512 | Physics II<br>and Physics II Recitation<br>and General Physics Lab II | 4 |
| *(9) Honors Natural Science* | | |
| Both of the below courses include a lab component. | | |
| HPLC 1603 | Honors: Natural Science I | 4 |
| HPLC 1604 | Honors: Natural Science II | 4 |

# Availability

The major in mathematics is available at Fordham College at Rose Hill and Fordham College at Lincoln Center. Students in Fordham's School of Professional and Continuing Studies may major in mathematics only if they receive the approval of their advising dean and/or department, and their schedules are sufficiently flexible to permit them to take day courses at the Rose Hill or Lincoln Center campuses.

***Fordham College at Rose Hill students:*** *The requirements above are in addition to those of the* Core Curriculum*.*

***Fordham College at Lincoln Center students:*** *The requirements above are in addition to those of the* Core Curriculum*.*

***Professional and Continuing Studies students:*** *The requirements above are in addition to those of the* PCS Core Curriculum *and any additional electives that may be required to earn a minimum of 124 credits.*

## CIP Code

27.0101 - Mathematics, General.

You can use the CIP code to learn more about career paths associated with this field of study and, for international students, possible post-graduation visa extensions. Learn more about CIP codes and other information resources.