Mathematics is an excellent major for the student whose immediate objective is to acquire a strong liberal arts education. Graduates may go on to work as an actuary with insurance companies; as a data analyst with pharmaceutical, biotechnology, or health care companies; as a quality assurance specialist with engineering companies; or in government agencies such as FDA, EPA, NSA, or USDA.

The B.S. program is more technically oriented than the B.A. program. It provides solid preparation for work or study in mathematics or a related field. Students wanting to go to graduate school are encouraged to consider the Accelerated Degree Program (ADP) to earn a B.S. and M.A. in 5 years. Strong students can graduate with Disciplinary Honors.

An undergraduate degree in mathematics also provides excellent preparation for graduate studies in many areas, including actuarial sciences, computer science, economics, engineering, law, mathematics, operations research, and statistics. The major can be specialized to allow preparation for any of these goals.

**Overall Requirements**
- 120 credit hours, to include at least 36 credits at or above the 300 course level
- Students planning to pursue graduate study should contact their advisor as soon as possible to prepare a plan of study
- A minimum grade of C (2.0) is required for all CSC, MAT, and STA courses to count towards the major core and the concentration.

**Degree Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 310</td>
<td>Elementary Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MAT 490</td>
<td>Senior Seminar in Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>STA 290</td>
<td>Introduction to Probability and Statistical Inference</td>
<td>3</td>
</tr>
<tr>
<td>MAT 191</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 292</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MAT 293</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MAT 394</td>
<td>Calculus IV</td>
<td>4</td>
</tr>
</tbody>
</table>

* If you need to take a combination of courses from both sequences contact your advisor.

**Concentrations**
Students must select one of the concentrations as detailed following the major requirements.

- Advanced Mathematics
- Statistics

**Electives**
Electives sufficient to complete the 120 credit hours required for degree.

**Advanced Mathematics Concentration Requirements**
- A minimum grade of C (2.0) is required for all CSC, MAT, and STA courses to count towards the major core and the concentration.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 120</td>
<td>Introduction to Computer Programming for Non-Majors</td>
<td>3</td>
</tr>
<tr>
<td>CSC 130</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CSC 230</td>
<td>Elementary Data Structures and Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CSC 427</td>
<td>Numerical Analysis and Computing</td>
<td>3</td>
</tr>
<tr>
<td>CSC 452</td>
<td>Theory of Computation</td>
<td>3</td>
</tr>
<tr>
<td>CSC 454</td>
<td>Algorithm Analysis / Design</td>
<td>3</td>
</tr>
</tbody>
</table>

**Mathematical Sciences Courses**
- Select three from the following:
  - MAT or STA courses 300 level or above
  - CSC 427 Numerical Analysis and Computing
  - CSC 452 Theory of Computation
  - CSC 454 Algorithm Analysis / Design

**Interdisciplinary Courses**
- Choose one of the subject options below

- Biology
  - BIO 111 Principles of Biology I
  - BIO 111 Principles of Biology I Laboratory
BIO 112 & 112L  
Principles of Biology II and Principles of Biology II Laboratory

Chemistry

CHE 111 & CHE 112  
General Chemistry I and General Chemistry I Laboratory

CHE 114 & CHE 115  
General Chemistry II and General Chemistry II Laboratory

Computer Science

CSC 220  
Elementary Data Structures—A Transition
or CSC 230  
Elementary Data Structures and Algorithms

CSC 330  
Advanced Data Structures

Economics

ECO 201  
Principles of Microeconomics

ECO 202  
Principles of Macroeconomics

Physics

PHY 291  
General Physics I with Calculus

PHY 292  
General Physics II with Calculus

* The following courses are not eligible:
  • MAT 405 Foundations of Mathematics for Teaching I
  • MAT 406 Foundations of Mathematics for Teaching II
  • MAT 465 Student Teaching and Seminar-Secondary Mathematics

Statistics Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Programming Course</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following</td>
<td></td>
</tr>
</tbody>
</table>
|        | CSC 120  
Introduction to Computer Programming for Non-Majors | 3            |
|        | CSC 130  
Introduction to Computer Science         |              |
|        | CSC 230  
Elementary Data Structures and Algorithms |              |
|        | **Additional Statistics Courses**          | 12           |
|        | STA 301  
Statistical Methods                       |              |
|        | STA 352  
Statistical Inference                      |              |
|        | Select two additional STA courses at the 300 level or above. | |
|        | **Advanced Statistics Courses**            | 6            |
|        | Select two STA courses at the 400 level.   |              |
|        | **Mathematical Sciences Courses**          | 6            |
|        | Two additional courses chosen from the following: | |
|        | MAT or STA courses 300 level or above.     |              |
|        | MAT 253  
Discrete Mathematical Structures          |              |
|        | CSC 425  
Bioinformatics                            |              |
|        | CSC 427  
Numerical Analysis and Computing           |              |

* The following courses are not eligible to count towards the Mathematical Sciences Courses requirement:
  • MAT 405 Foundations of Mathematics for Teaching I
  • MAT 406 Foundations of Mathematics for Teaching II
  • MAT 413
  • MAT 465 Student Teaching and Seminar-Secondary Mathematics

Disciplinary Honors in Mathematics

Requirements

• A minimum of 12 credit hours as detailed below.
• UNC Greensboro cumulative GPA of 3.30 or better or, for transfer students, cumulative GPA of 3.30 or better from all prior institutions.
• A grade of B or higher in all course work used to satisfy the Honors requirement in Mathematics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Required</strong></td>
<td></td>
</tr>
</tbody>
</table>
|        | MAT 493  
Honors Work *                           | 6-9          |
|        | HSS 490  
Senior Honors Project                  |              |
|        | **Select two courses from the following:** | 6            |
|        | MAT 310  
Elementary Linear Algebra               |              |
|        | MAT 311  
Introduction to Abstract Algebra        |              |
|        | MAT 390  
Ordinary Differential Equations          |              |
|        | MAT 395  
Introduction to Mathematical Analysis   |              |

* To be taken before HSS 490

Recognition

Receive a Certificate of Disciplinary Honors in Mathematics; have that accomplishment, along with the title of the Senior Honors Project, noted on the official transcript; and be recognized at a banquet held at the end of the spring semester.

Honors Advisor

Contact Richard Fabiano at fabiano@uncg.edu for further information and guidance about Honors in Mathematics. To apply: http://honorscollege.uncg.edu/forms/disc-application.pdf

Accelerated B.A. or B.S. to M.A. in Mathematics

Application and Admission

Qualified UNC Greensboro undergraduate students who are pursuing the B.A. or B.S. in Mathematics may apply for admission to the Accelerated Master’s Program (AMP) and the M.A. in Mathematics program. A cumulative undergraduate GPA of at least 3.5 based on at least 30 credits earned at UNC Greensboro is required. Applicants must have completed at least 60 credits and may not apply for admission to the AMP before the first semester of the junior year. All applicants must submit the Accelerated Master’s Program information when applying for admission to the M.A. in Mathematics, submitting all application materials excluding GRE scores.

Courses

Admitted students may apply up to 12 credits of graduate-level course work toward completion of both the undergraduate and graduate degree, provided that they earn a grade of B (3.0) or better in the course and fulfill graduate-level requirements. The graduate courses the student will take within the Accelerated Master’s Program in Mathematics must be approved by the Graduate Program Director, must be specified on the Accelerated Master’s Program request, and must be from two out of the following four choices:
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 695</td>
<td>Mathematical Analysis</td>
<td>6</td>
</tr>
<tr>
<td>&amp; MAT 696</td>
<td>and Mathematical Analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Two courses selected from 600-level or higher MAT courses</td>
<td>6</td>
</tr>
<tr>
<td>STA 631</td>
<td>Introduction to Probability</td>
<td>6</td>
</tr>
<tr>
<td>&amp; STA 632</td>
<td>and Introduction to Mathematical Statistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Two courses selected from:</td>
<td>6</td>
</tr>
<tr>
<td>STA 602</td>
<td>Statistical Methods for Data Analytics</td>
<td></td>
</tr>
<tr>
<td>STA 622</td>
<td>Complex Data Analysis</td>
<td></td>
</tr>
<tr>
<td>STA 645</td>
<td>Nonparametric Statistics</td>
<td></td>
</tr>
<tr>
<td>STA 670</td>
<td>Categorical Data Analysis</td>
<td></td>
</tr>
<tr>
<td>STA 671</td>
<td>Multivariate Analysis</td>
<td></td>
</tr>
</tbody>
</table>


Please consult with an advisor to determine how the courses taken at the graduate level will meet requirements in the bachelor’s degree program. All degree requirements for the M.A. in Mathematics remain the same.