MATHEMATICS, B.A.

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.A. program is more flexible than the B.S. program. It allows one to specialize in mathematics and at the same time either to follow a broad liberal arts program or to specialize in a second area (possibly even taking a second major). The BS program is more technically oriented; it provides solid preparation for work or study in mathematics or a related field.

The B.A. program in mathematics allows students to specialize in mathematics and at the same time either to follow a broad liberal arts program or to specialize in a second area (possibly even taking a second major). 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;
- A minimum grade of C (2.0) is required for all CSC, MAT, and STA courses to count towards the major core and the concentrations;
- In the High School Licensure Concentration a minimum grade point average (GPA) of 3.0 overall for admission to the Professional Education Program is required.

Degree Program Requirements

<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>MAT 253</td>
<td>Discrete Mathematical Structures</td>
<td>3</td>
</tr>
<tr>
<td>MAT 311</td>
<td>Introduction to Abstract Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MAT 390</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MAT 395</td>
<td>Introduction to Mathematical Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

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

General 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.

Concentrations

Select one of the concentrations as detailed following the major requirements.

- General Mathematics
- High School Teaching Licensure
- Statistics

High School Teaching Licensure Concentration Requirements

Admission to the Concentration

A student who seeks admission to the Mathematics major with High Teaching Licensure concentration is expected to achieve:

1. A minimum grade point average (GPA) of 3.0 overall and 2.50 in the major
2. Completion of all courses needed to fulfill the General Education Requirements; and
3. Satisfactory scores on the Praxis I (ACT or SAT—See Praxis I Substitution Table for ACT, SAT, and Praxis I).

Students interested in the High School Teaching Licensure concentration must consult the coordinator of the Secondary Licensure in Mathematics Program upon admittance to UNC Greensboro for early discussion of all requirements. Additionally, students must request Admission to the Teacher Education Program from the School of Education Office of
Application to student teaching forms are available online at https://soe.uncg.edu/services/office-of-student-services-advising/teacher-education/. Forms must be submitted by February 15 for student teaching in the spring of the following year. Student teaching assignments are usually made in schools within commuting distance of UNC Greensboro. Teacher Education students are individually responsible for expenses incurred during student teaching, including transportation. Note: Student Teaching is offered only in the spring semester.

Application for Teacher Licensure
An application for licensure should be filed with the School of Education Office of Student Services within two weeks of graduation. Students should be aware that the licensure process will take six weeks or longer after graduation to be completed. UNC Greensboro recommends for a teacher's licensure those students who have completed the appropriate teacher education program, attained acceptable competencies, and whose work has been approved by the appropriate department.

Passing scores on the Praxis II (subject-area exams) are no longer required by the state to be recommended for licensure in secondary mathematics; however, successful completion of the Praxis II is required within three years of licensure. The Department of Mathematics and Statistics recommends that a student intending to be licensed take the Praxis II before graduation upon completion of their major courses. (Lateral-entry teachers are required to take the Praxis II.) To be licensed in North Carolina, students must meet the specific state requirements for licensure in effect at the time of their application for licensure, including demonstration of technology competencies.

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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 Request for Accelerated Master’s Program to the Graduate School. Applicants must simultaneously apply 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 Director of Graduate Study, must be specified on the Request for Accelerated Master’s Program, and must be chosen from among the following courses:

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>MAT 695</td>
<td>Mathematical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MAT 696</td>
<td>Mathematical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STA 631</td>
<td>Introduction to Probability</td>
<td>3</td>
</tr>
<tr>
<td>STA 632</td>
<td>Introduction to Mathematical Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STA 661</td>
<td>Advanced Statistics in the Behavioral and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Biological Sciences I</td>
<td></td>
</tr>
<tr>
<td>STA 662</td>
<td>Advanced Statistics in the Behavioral and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Biological Sciences II</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.