ACCELERATED BACHELOR OF SCIENCE IN APPLIED MATHEMATICS/MASTER OF ARTS IN TEACHING (WITH TEACHING CERTIFICATION)

To earn an Accelerated BS/MAT in Applied Mathematics, a student must complete all basic requirements for the BS degree with a major in Applied Mathematics, as well as additional coursework at the graduate level. (See Graduate Catalog for details of graduate requirements, including eligibility and admission).

BS in Applied Mathematics
Requirements for a Major in Applied Mathematics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 1321</td>
<td>Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 1322</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MTH 2311</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MTH 2321</td>
<td>Calculus III</td>
<td>3</td>
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<tr>
<td>MTH 3300</td>
<td>Foundations of Mathematics</td>
<td>3</td>
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<tr>
<td>STA 3381</td>
<td>Probability and Statistics</td>
<td>3</td>
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One of the following: 3

- MTH 3312 Foundations of Combinatorics and Algebra
- MTH 3323 Introduction to Analysis
- MTH 4314 Abstract Algebra
- MTH 4326 Advanced Calculus I

Nine semester hours from one of the following groups: 1 9

Statistical
- STA 4382 Intermediate Statistical Methods
- STA 4385 Mathematical Statistics I
- STA 4386 Mathematical Statistics II
- STA 4387 Introduction to Probability Models

Differential
- MTH 3325 Ordinary Differential Equations 1
- MTH 3326 Partial Differential Equations
- MTH 4329 Theory of Functions of a Complex Variable

Numerical
- MTH 3324 Numerical Methods
- MTH 4322 Numerical Analysis
- MTH 4328 Numerical Linear Algebra

A grade of “C” or better in thirty-nine hours of MTH and STA courses used for the major.

MAT with Teaching Certificate

- Elementary (EC-6) Education Certification - M.A.T. Degree Plan
- Middle Grades Education Certification - M.A.T. Degree Plan

Subtotal 39

Required Courses in Other Fields
Eight semester hours of science courses with appropriate labs (with no more than 4 hours of GEO) selected from the following: 8

- CSI 1401 or CSI 1430: Introduction to Programming I or Introduction to Computer Science I with Laboratory
- or STA 2450: Introduction to Computing for the Mathematical and Statistical Sciences
- CSI 1402: Introduction to Programming II
- or CSI 1440: Introduction to Computer Science II with Laboratory
- or STA 4330: SAS Programming for Statistical Science
- or STA 4350: Statistical Machine Learning
- or STA 4373: Computational Methods in Statistics
- BIO 1305 & BIO 1105: Modern Concepts of Bioscience and Modern Concepts of Bioscience Laboratory
- BIO 1306 & BIO 1106: Modern Concepts of Bioscience, continued and Modern Concepts of Bioscience Laboratory
- CHE 1301 & CHE 1101: Basic Principles of Modern Chemistry I and General Chemistry Laboratory I
- CHE 1302 & CHE 1102: Basic Principles of Modern Chemistry II and General Chemistry Laboratory II
- ENV 1301 & ENV 1101: Exploring Environmental Issues and An Introduction to Environmental Analysis (Lab)
- GEO 1306 & GEO 1106: The Earth Through Time and The Earth Through Time, Laboratory
- or GEO 1307 & GEO 1106: Evolution and Extinction and The Earth Through Time, Laboratory
- GEO 1401: Earthquakes and Other Natural Disasters
- GEO 1402: World Oceans
- GEO 1403: Environmental Geology
- GEO 1405: The Dynamic Earth
- GEO 1408: Earth Science
- NSC 1306 & NSC 1106: Introduction to Neuroscience and Introduction to Neuroscience Laboratory
- PHY 1420: General Physics I
- PHY 1430: General Physics II

Total Hours 55

A student applying for medical school is recommended to select Statistical and take MTH 3325 Ordinary Differential Equations as a 3000-level course.