B.S. Mathematics

The Bachelor of Science program in Mathematics is designed to prepare students to take positions in industry, to pursue graduate training, or to enter the teaching profession. It allows some flexibility in course work which necessitates close cooperation with a mathematics department advisor who should be selected early in the student’s career.

Students must fulfill the university’s General Education Requirements (a minimum of 36 credits—see the General Education Requirements in the Academic Information section of this catalog).

Mathematics Core

All bachelor degrees offered in the Department of Mathematics and Statistics have a common core consisting of the following six courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1181</td>
<td>Computer Science and Programming I 1</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1170</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1175</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2275</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2240</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3326</td>
<td>Elementary Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

1 The two courses, ME 1165 Structured Programming and ME 2266 Symbolic Programming, may be substituted for CS 1181.

Required Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Math Core (See above)</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>MATH 2287</td>
<td>Foundations of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3360</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4407</td>
<td>Modern Algebra I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4423</td>
<td>Introduction to Real Analysis I</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus ONE of the following courses:

- MATH 3327 Vector Analysis
- MATH 3335 Elementary Number Theory
- MATH 3343 Modern Geometry I
- MATH 3352 Introduction to Probability
- MATH 3362 Introduction to Complex Variables

Plus 12 more credits of 4000-level mathematics coursework, which includes completing two of the following sequences:

- MATH 4407 Modern Algebra I
  & MATH 4408 and Modern Algebra II
- MATH 4423 Introduction to Real Analysis I
  & MATH 4424 and Introduction to Real Analysis II
- MATH 4441 Introduction to Numerical Analysis I
  & MATH 4442 and Introduction to Numerical Analysis II
- MATH 4450 Mathematical Statistics I
  & MATH 4451 and Mathematical Statistics II