# Bachelor of Science, Major in Mathematics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Science, Major in Mathematics</td>
<td>Core Curriculum (<a href="catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum">catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum</a>)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Component Area I (Communication)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Component Area II (Mathematics) satisfied by major</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Component Area III (Life and Physical Science)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Component Area IV (Language, Philosophy, and Culture)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area V (Creative Arts)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area VI (U.S. History)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Component Area VII (Political Science/Government)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Component Area VIII (Social and Behavioral Sciences)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area IX (Component Area Option)</td>
<td>3</td>
</tr>
</tbody>
</table>

## Degree Specific Requirements

### Science Courses for Science Majors - Select 8 hours from the following:  

1. BIOL 1411 & BIOL 1413: General Botany and General Zoology  
2. CHEM 1411 & CHEM 1412: General Chemistry I and General Chemistry II  
3. 8 hours from GEOL 1403, GEOL 1404, GEOL 1405, GEOG 1401  
4. COSC 1436: Programming Fundamentals I  
5. ENGL 2332 or ENGL 2333: World Lit I: Before 17 Century & After  
6. PHYS 1411 & PHYS 1422 or PHYS 2426: Introduction To Physics I and Heat, Waves & Modern Physics

### Major Core

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1420</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1430</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2440</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3300</td>
<td>Introduction to Math Thought</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3376</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3377</td>
<td>Intro to Linear Alg &amp; Matrics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4361</td>
<td>Introductory Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4366</td>
<td>Elementary Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4371</td>
<td>Thy &amp; Appl of Prob &amp; Stat I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4377</td>
<td>Algebraic Structures</td>
<td>3</td>
</tr>
</tbody>
</table>

### Major

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced MATH Electives</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Minor</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Total Hours: 120

1. Satisfies Core Curriculum requirement for Component Area III (life and Physical Science).
2. Satisfies the Core Curriculum requirement for Component Area IV (Language, Philosophy, and Culture).
3. MATH 1420 satisfies the Core Curriculum requirement for Component Area II (Mathematics) and one semester credit hour of the Core Curriculum requirement for Component Area IX (Component Area Option).
4. Advanced MATH electives do not include MATH 3379/STAT 3379, MATH 3363, MATH 338x, MATH 4367, and MATH 438x.
5. Includes at least 9 hours of advanced coursework.

The following courses can only be used as required advanced electives by students who are seeking elementary/middle school teacher certification:
### Bachelor of Science, Major in Mathematics

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 3380</td>
<td>Historical Perspec of Math</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3381</td>
<td>Intro - Foundation of Math III</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3383</td>
<td>Geometric Meas./Transformation</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3384</td>
<td>Foundations of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3386</td>
<td>Fundmtns of Probability/Stats</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3387</td>
<td>Problem Solving-Middle Sch Mth</td>
<td>3</td>
</tr>
</tbody>
</table>

**The following courses can only be used as required advanced electives by students who are seeking secondary teacher certification:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 4384</td>
<td>Survey of Mathematical Ideas</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4385</td>
<td>Mathematical Problem Solving</td>
<td>3</td>
</tr>
</tbody>
</table>

Students should use the minor and electives to complete the 42-advanced hour requirement for graduation.

In order to satisfy the Core Curriculum requirement for Component Area III (Life and Physical Science), except in the Department of Physics, the student must take 8 semester credit hours of classes from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1411</td>
<td>General Botany and General Zoology</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 1411 &amp; CHEM 1412</td>
<td>General Chemistry I and General Chemistry II</td>
<td></td>
</tr>
</tbody>
</table>

Any two lab courses from Geology or Geography

### First Year

#### Fall

<table>
<thead>
<tr>
<th>Hours</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Component Area III (catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaiii)</td>
</tr>
<tr>
<td>3</td>
<td>ENGL 1302</td>
</tr>
<tr>
<td>3</td>
<td>HIST 1302</td>
</tr>
<tr>
<td>4</td>
<td>MATH 1420</td>
</tr>
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</table>

**Component Area III**

<table>
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<tr>
<th>Hours</th>
<th>Spring</th>
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<tr>
<td>4</td>
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</tr>
<tr>
<td>3</td>
<td>ENGL 1302</td>
</tr>
<tr>
<td>3</td>
<td>HIST 1302</td>
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<tr>
<td>4</td>
<td>MATH 1420</td>
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</table>

**Second Year**

#### Fall

<table>
<thead>
<tr>
<th>Hours</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>MATH 3377</td>
</tr>
<tr>
<td>4</td>
<td>MATH 3376</td>
</tr>
<tr>
<td>3</td>
<td>Minor Course</td>
</tr>
<tr>
<td>4</td>
<td>PHYS 1422 or 2426</td>
</tr>
<tr>
<td>3</td>
<td>POLS 2305</td>
</tr>
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</table>

**Component Area IX**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>MATH 3377</td>
</tr>
<tr>
<td>4</td>
<td>MATH 3376</td>
</tr>
<tr>
<td>3</td>
<td>Minor Course</td>
</tr>
<tr>
<td>4</td>
<td>PHYS 1422 or 2426</td>
</tr>
<tr>
<td>3</td>
<td>POLS 2305</td>
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</table>

**Third Year**

#### Fall

<table>
<thead>
<tr>
<th>Hours</th>
<th>Spring</th>
</tr>
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<tbody>
<tr>
<td>3</td>
<td>Component Area V (catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareav)</td>
</tr>
<tr>
<td>1</td>
<td>ENGL 2332</td>
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<td>3</td>
<td>MATH 4361</td>
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<td>3</td>
<td>MATH 4371</td>
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**Elective**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>MATH Advanced Elective</td>
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<tr>
<td>3</td>
<td>MATH Advanced Elective</td>
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</tbody>
</table>
## Bachelor of Science, Major in Mathematics

<table>
<thead>
<tr>
<th>Minor Course</th>
<th>3 Minor Course</th>
<th>3</th>
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</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component Area VIII (catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaviii)</td>
<td>3 Elective</td>
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<td></td>
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<tr>
<td>Elective</td>
<td>3 MATH Advanced Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 4377</td>
<td>3 MATH Advanced Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH Advanced Elective</td>
<td>3 Minor Advanced Course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Minor Advanced Course</td>
<td>3 Minor Advanced Course</td>
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<tr>
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<td>15</td>
<td>15</td>
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</tr>
</tbody>
</table>

Total Hours: 120

1. Science Course for Science Majors: BIOL 1411 and BIOL 1413 or CHEM 1411 and CHEM 1412.
2. Satisfies Core Curriculum requirement for Component Area I (Communications).
4. Satisfies Core Curriculum requirement for Component Area II (Mathematics) and one semester credit hour of Component Area IX (Component Area Option).
5. Satisfies Core Curriculum requirement for Component Area VII (Political Science/Government).

### Notes

Advanced MATH electives do not include MATH 3379/STAT 3379, MATH 3363, MATH 338x, MATH 4367, and MATH 438x.

Minor includes at least 9 hours of advanced coursework.