BS Computer Engineering - University of St. Thomas
Normandale Community College Plus 2.5 Plan of Study

Students who complete the following courses at Normandale Community College are in a good position to complete a Bachelor of Science degree in Computer Engineering with 2 ½ more years of study at the University of St. Thomas.

<table>
<thead>
<tr>
<th>Normandale Course #</th>
<th>Normandale Course Title</th>
<th>Cr.</th>
<th>St. Thomas Course Equivalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1510</td>
<td>Calculus 1</td>
<td>5</td>
<td>MATH 113</td>
</tr>
<tr>
<td>MATH 1520</td>
<td>Calculus 2</td>
<td>5</td>
<td>MATH 114</td>
</tr>
<tr>
<td>MATH 2520</td>
<td>Differential Eqns. &amp; Lin. Algebra</td>
<td>5</td>
<td>MATH 210</td>
</tr>
<tr>
<td>PHYS 1121</td>
<td>Physics I for Scientists and Engrs.</td>
<td>5</td>
<td>PHYS 211</td>
</tr>
<tr>
<td>PHYS 1122</td>
<td>Physics II for Scientists and Engrs.</td>
<td>5</td>
<td>PHYS 212</td>
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<tr>
<td>CSCI 1113 (or CSCI 1111)</td>
<td>Introduction to C/C++ for Engrs.</td>
<td>4</td>
<td>CISC 130</td>
</tr>
<tr>
<td>CSCI 2011</td>
<td>Discrete Structures of Comp. Sci.</td>
<td>4</td>
<td>MATH 128</td>
</tr>
<tr>
<td>ENGR 1020</td>
<td>Intro. to Engineering Design</td>
<td>4</td>
<td>ENGR 100</td>
</tr>
<tr>
<td>ENGR 2301 &amp; ENGR 2302</td>
<td>Intro. to Digital Logic Design A &amp; Intro. to Digital Logic Design B</td>
<td>2</td>
<td>ENGR 230</td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td></td>
<td>41</td>
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</table>

<table>
<thead>
<tr>
<th>Core Requirement</th>
<th>Credits</th>
<th>Normandale Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language and Culture</td>
<td>0-10</td>
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</tr>
<tr>
<td>Literature and Writing</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Social Analysis</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Historical Studies</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>14-25</td>
<td></td>
</tr>
</tbody>
</table>

Students are not required to complete all the coursework on page 1 before transferring to the University of St. Thomas. We invite prospective students to tour the School of Engineering and meet with faculty and financial aid staff to determine the best time for transfer.

However, if a student does complete all the coursework on page 1, the remaining courses at the University of St. Thomas would require 2 ½ years of full-time study. Courses are listed below, and a sample 2 ½ -year plan of study is provided on page 3.
## Courses Taken at University of St. Thomas – Major Requirements

<table>
<thead>
<tr>
<th>UST Course #</th>
<th>University of St. Thomas Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 175</td>
<td>Introduction to Electrical &amp; Computer Engineering</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 240</td>
<td>Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 330</td>
<td>Microprocessor Architectures</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 331</td>
<td>Designing with Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 345</td>
<td>Electronics I</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 431</td>
<td>Design of Embedded Systems</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 432</td>
<td>Current Trends in Computing Systems</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 480</td>
<td>Engineering Design Clinic I</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 481</td>
<td>Engineering Design Clinic II</td>
<td>4</td>
</tr>
<tr>
<td>CISC 230</td>
<td>Object-Oriented Design and Programming</td>
<td>4</td>
</tr>
<tr>
<td>CISC 231</td>
<td>Data Structures using Object-Oriented Design</td>
<td>4</td>
</tr>
<tr>
<td>XXX</td>
<td>Sci/Math and ENGR/CISC Technical Electives (see UST Catalog)</td>
<td>16</td>
</tr>
<tr>
<td>MATH 128</td>
<td>Introduction to Discrete Math</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td><strong>62</strong></td>
</tr>
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</table>

## Courses Taken at University of St. Thomas – Core Requirements

<table>
<thead>
<tr>
<th>Core Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Philosophy and Theology</td>
<td>12</td>
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<tr>
<td>Integrations in the Humanities</td>
<td>8</td>
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<tr>
<td><strong>Total Credits</strong></td>
<td><strong>20</strong></td>
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</tbody>
</table>

Note: Some courses must also satisfy flagged requirements (DISJ, Global, WAC). Students with fewer than 60 credits at transfer must also complete First Year Experience Requirements. For more information on the Core Curriculum, see: [https://www.stthomas.edu/core-curriculum/courses/index.html](https://www.stthomas.edu/core-curriculum/courses/index.html)
# BS Computer Engineering - University of St. Thomas
## Normandale Community College Plus 2.5 Plan of Study

### Proposed Schedule for Final 2 ½ Years at University of St. Thomas

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Cr</th>
<th>Spring</th>
<th>Cr</th>
<th>Summer / J-term</th>
<th>Cr</th>
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<tbody>
<tr>
<td><strong>1st Yr</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>ENGR 175 Intro to Electrical &amp; Computer Engineering</td>
<td>2</td>
<td>ENGR 240 Circuit Analysis (lab)</td>
<td>4</td>
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<tr>
<td></td>
<td>Science/Math Elective I</td>
<td>4</td>
<td>(PHYS/CHEM/BIO/MATH/STAT)</td>
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<tr>
<td></td>
<td>CORE Requirement</td>
<td>4</td>
<td></td>
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<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td>14</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>2nd Yr</strong></td>
<td>ENGR 330 Microprocessor Architectures (or CISC 340 in Spring)</td>
<td>4</td>
<td>ENGR 331 Designing with Microprocessors (lab) (Spring only)</td>
<td>4</td>
<td>CORE Requirement</td>
<td>4</td>
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<tr>
<td></td>
<td>ENGR 345 Electronics I (lab) (Fall only)</td>
<td>4</td>
<td>CORE Requirement</td>
<td>4</td>
<td></td>
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<tr>
<td></td>
<td>CISC 230 Object-Oriented Design and Programming</td>
<td>4</td>
<td>CISC 231 Data Structures Using Object-Oriented Design (lab)</td>
<td>4</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>MATH 128 Introduction to Discrete Math</td>
<td>4</td>
<td>Technical Elective I</td>
<td>4</td>
<td>ENGR/CISC 2XX, 3XX, 4XX</td>
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</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td>16</td>
<td></td>
<td></td>
<td><strong>Total Credits</strong></td>
<td>16</td>
</tr>
<tr>
<td><strong>3rd Yr</strong></td>
<td>ENGR 480 Engineering Design Clinic I (Fall or Summer)</td>
<td>4</td>
<td>ENGR 481 Engineering Design Clinic II</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science/Math Elective II</td>
<td>4</td>
<td>ENGR 432 Current Trends in computing Systems</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENGR 431 Design of Embedded Systems (lab) (Fall only)</td>
<td>4</td>
<td>Technical Elective II</td>
<td>4</td>
<td>ENGR/CISC 2XX, 3XX, 4XX</td>
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<tr>
<td></td>
<td>CORE Requirement</td>
<td>4</td>
<td>CORE Requirement</td>
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</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td>16</td>
<td></td>
<td></td>
<td><strong>Total Credits</strong></td>
<td>16</td>
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</tbody>
</table>

### Program Credits

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Major Requirements completed at Normandale</td>
<td>41</td>
</tr>
<tr>
<td>Core Requirements completed at Normandale *</td>
<td>14-25</td>
</tr>
<tr>
<td>Major Requirements completed at University of St Thomas</td>
<td>62</td>
</tr>
<tr>
<td>Core Requirements completed at University of St Thomas</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>137 - 148</strong></td>
</tr>
</tbody>
</table>

*The number of credits is dependent upon the student’s proficiency in a second language upon entering the program.

This guide is accurate to the best of our knowledge and ability at the time of publication but is subject to change.