Below is the advised sequence of courses for this degree program on Main Campus as of 7/12/2022.

Official degree requirements and course prerequisites are in the University General Catalog; prerequisites are subject to change.

<table>
<thead>
<tr>
<th>Course Number and Title</th>
<th>Units</th>
<th>Prerequisites/Enrollment Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st Semester</strong></td>
<td></td>
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</tr>
<tr>
<td>MATH 122A/B or MATH 125 Calculus I with Applications</td>
<td>5/3</td>
<td>Appropriate Math Placement</td>
</tr>
<tr>
<td>*CHEM 151 Chemical Thinking I or CHEM 161/163</td>
<td>4</td>
<td>Appropriate Math Placement</td>
</tr>
<tr>
<td>ENGL 101 or 107 or 109H First-Year Composition</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGR 102A/B Introduction to Engineering or ENGR 102</td>
<td>3</td>
<td>ENGR102A: MATH 112; ENGR102B: Concurrently enrolled or completion of MATH 122B or 125; FR &amp; SOPH Status</td>
</tr>
<tr>
<td>UNIV 101 Intro to the General Education Experience</td>
<td>1</td>
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<tr>
<td>Semester Total</td>
<td>16/14</td>
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<tr>
<td><strong>2nd Semester</strong></td>
<td></td>
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</tr>
<tr>
<td>MATH 129 Calculus II</td>
<td>3</td>
<td>MATH 122B or 125 with C or better</td>
</tr>
<tr>
<td>*CHEM 152 General Chemistry II or CHEM 162/164 or MSE 110 Solid State Chemistry or MCB 181 R/L Into Biology I</td>
<td>4</td>
<td>For CHEM 152 &amp; MSE 110: CHEM 151 or 141/143 or 161/163; For MCB 181R/L: Appropriate Math Placement</td>
</tr>
<tr>
<td>ECE 175 Computer Programming for Engineering Applications OR CSC 110 Introduction to Computer Programming I</td>
<td>3/4</td>
<td>For ECE 175: Concurrent Enrollment or completion of MATH122B or 125 For CSC 110: MATH 112 with C or better</td>
</tr>
<tr>
<td>ENGL 102 or 108 First-Year Composition</td>
<td>3</td>
<td>ENGL 101 or ENGL 107</td>
</tr>
<tr>
<td>†General Education: Building Connections</td>
<td>3</td>
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</tr>
<tr>
<td>Semester Total</td>
<td>16/17</td>
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<tr>
<td><strong>3rd Semester</strong></td>
<td></td>
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<tr>
<td>MATH 223 Vector Calculus</td>
<td>4</td>
<td>MATH 129 with C or better</td>
</tr>
<tr>
<td>*PHYS 141 Introductory Mechanics or PHYS 161H</td>
<td>4</td>
<td>MATH 122B or 125 or Appropriate Math Placement Level</td>
</tr>
<tr>
<td>SIE 265 Engineering Management I</td>
<td>3</td>
<td>MATH 122B or 125</td>
</tr>
<tr>
<td>General Education: Exploring Perspectives (Humanist)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>†General Education: Building Connections</td>
<td>3</td>
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<tr>
<td>Semester Total</td>
<td>17</td>
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<tr>
<td><strong>4th Semester</strong></td>
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<tr>
<td>CE 214 Statics</td>
<td>3</td>
<td>PHYS 141 or 161H; MATH 129</td>
</tr>
<tr>
<td>CHEE 201 Elements of Chemical &amp; Environmental Engr I (Fall Only) or AME 230 Thermodynamics or BE 284 Biosystems Thermal Engineering (Fall Only)</td>
<td>3</td>
<td>For CHEE 201: MATH 122B or 125, concurrent enrollment or completion MATH 129 &amp; CHEM152 or 162/164; For AME 230: PHYS 141 or PHYS 161H; For BE 284: MATH 129, PHYS 141</td>
</tr>
<tr>
<td>PHYS 241 Introductory Electricity and Magnetism or PHYS 261H</td>
<td>4</td>
<td>For PHYS 241 or 261H: PHYS 141 or 161H; MATH 129 or Appropriate Math Placement Level</td>
</tr>
<tr>
<td>SIE 295S Systems &amp; Industrial Engineering Sophomore Colloquium</td>
<td>1</td>
<td>SIE 265 (concurrently enrolled)</td>
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<tr>
<td>SIE 270 Mathematical Foundations of Systems and Industrial Engineering</td>
<td>3</td>
<td>MATH 129, PHYS 141, ECE 175 or CSC 110</td>
</tr>
<tr>
<td>General Education: Exploring Perspectives (Artist)</td>
<td>3</td>
<td></td>
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<tr>
<td>Semester Total</td>
<td>17</td>
<td></td>
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</tbody>
</table>

*Each of the following foundational science courses satisfies the requirements for General Education: Exploring Perspectives (Natural Scientist): CHEM 151 or 152 or 161 or 162; or PHYS 141 or 161H.
Advanced Standing is required for 300- and 400-level engineering courses (see your academic advisor for details).

<table>
<thead>
<tr>
<th>Course Number and Title</th>
<th>Units</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td><strong>5th Semester</strong></td>
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</tr>
<tr>
<td>SIE 305 Introduction to Engineering Probability and Statistics</td>
<td>3</td>
<td></td>
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<tr>
<td>SIE 340 Deterministic Operations Research</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECE 207 Elements of Electrical Engineering or ECE 220 Basic Circuits</td>
<td>3/5</td>
<td>If taking ECE 220, Consult advisor regarding class schedule</td>
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<tr>
<td>Engineering Minor Course</td>
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<tr>
<td>Engineering Minor Course</td>
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<td>Semester Total</td>
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<tr>
<td><strong>6th Semester</strong></td>
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<tr>
<td>SIE 367 Engineering Management II</td>
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<tr>
<td>SIE 431 Simulation Modeling and Analysis</td>
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<tr>
<td>SIE 462 Production Systems Analysis</td>
<td>3</td>
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<tr>
<td>Engineering Minor Course</td>
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<tr>
<td>Engineering Minor Course</td>
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<tr>
<td>General Education: Exploring Perspectives (Social Scientist)</td>
<td>3</td>
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<tr>
<td>Semester Total</td>
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<tr>
<td><strong>7th Semester</strong></td>
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<tr>
<td>SIE 415 Technical Sales and Marketing</td>
<td>3</td>
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<tr>
<td>SIE 498A or ENGR 498A Interdisciplinary Capstone (Fall Only)</td>
<td>2-3</td>
<td>Senior Status</td>
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<tr>
<td>SIE 457 Project Management</td>
<td>3</td>
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<tr>
<td><strong>Technical Writing: CE 301 or ENGL 306 or 307 or 308</strong></td>
<td>3</td>
<td>Consult major advisor for course approval</td>
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<td>SIE 406 Quality Engineering</td>
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<td>Semester Total</td>
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<tr>
<td><strong>8th Semester</strong></td>
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<tr>
<td>SIE 498B or ENGR 498B Interdisciplinary Capstone (Spring Only)</td>
<td>3</td>
<td>Senior Status</td>
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<tr>
<td>SIE 414 Law for Engineers and Scientists</td>
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<tr>
<td>SIE 464 Cost Estimation</td>
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<tr>
<td>Engineering Minor Course</td>
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<tr>
<td>Engineering Minor Course</td>
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<td>UNIV 301 General Education Portfolio</td>
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<tr>
<td>Elective</td>
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<td>Depends on selection of General Education course. Consult major advisor for course approval</td>
</tr>
<tr>
<td>Semester Total</td>
<td>16/17</td>
<td></td>
</tr>
</tbody>
</table>

†Students should work closely with their academic advisor to select General Education: Building Connections courses; some course work in the major, such as some Technical Elective courses, may also fulfill General Education: Building Connections requirements.

**CE 301 provisionally approved for Fall 2022; or ENGL 307 or 308 (UWGEC Approved) will fulfill GE Building Connections if taken as a technical writing course.**