### B.S. in Biomedical Engineering
#### Four-Year Plan
##### Catalog Year 2013-2014

Below is the *advised sequence* of courses for this degree program. The official degree requirements can be found in the University General Catalog.

<table>
<thead>
<tr>
<th>Course Number and Title</th>
<th>Units</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td><strong>1&lt;sup&gt;st&lt;/sup&gt; Semester</strong></td>
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<tr>
<td>MATH 122A/B or MATH 125 Calculus I with Applications</td>
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<td>CHEM 151 General Chemistry I</td>
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<td>ENGL 101 First-Year Composition</td>
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<tr>
<td>ENGR 102 Introduction to Engineering</td>
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<td><strong>2&lt;sup&gt;nd&lt;/sup&gt; Semester</strong></td>
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<td>CHEM 152 General Chemistry II</td>
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<td>PHYS 141 Introductory Mechanics</td>
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<td>MATH 122B or MATH 125; Concurrent enrollment in MATH 129</td>
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<td>ENGL 102 First-Year Composition</td>
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<td><strong>3&lt;sup&gt;rd&lt;/sup&gt; Semester</strong></td>
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<td>ABE 284 Biosystems Thermal Engineering (Fall Only)</td>
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<td>BME 295C Challenges in Biomedical Engineering (Fall Only)</td>
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<td>CE 214 Statics</td>
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<td>PHYS 141; MATH 129</td>
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<td>MATH 223 Vector Calculus</td>
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<td>MCB 181 R/L Introductory Biology I and Laboratory</td>
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<td>ABE 205 Engineering Analytic Computer Skills (Spring Only)</td>
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<tr>
<td>MATH 254 Intro to Ordinary Differential Equations</td>
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<td>PHYS 241 Introductory Electricity and Magnetism</td>
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### Biosensors Track

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<th>Units</th>
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<td><strong>5TH SEMESTER</strong></td>
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<tr>
<td>ECE 207 Elements of Electrical Engineering</td>
<td>3</td>
<td>PHYS 241; Completion or concurrent enrollment MATH 254</td>
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<tr>
<td>PSIO 202 Human Anatomy and Physiology II or ECOL 182 R/L Introductory Biology 2 and Laboratory</td>
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<tr>
<td>CE 218 or AME 331 Fluid Mechanics</td>
<td>3</td>
<td>For CE 218: CE 214. For AME 331: ABE 284; PHYS 141; MATH 254</td>
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<tr>
<td>AME 301 Engineering Analysis (Fall Only)***</td>
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<td>CE 218</td>
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<td><strong>6TH SEMESTER</strong></td>
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<tr>
<td>BME 330 Biomedical Instrumentation (Spring Only)</td>
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<td>ECE 207; PSIO 201</td>
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<tr>
<td>ABE 423 Biosystems Analysis and Design (Spring Only)***</td>
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<td>SIE 305 Introduction to Engineering Probability and Statistics</td>
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<td>ABE 489B Bio Micro/Nanotechnology Applications</td>
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<tr>
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<tr>
<td>BME 497G Clinical Rotation (Fall Only)</td>
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<td>BME 330</td>
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<tr>
<td>ABE 447 Sensors and Controls (Fall Only)</td>
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<td>CHEM 152 or MSE 110</td>
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<td>AME 489A Fabrication Techniques for Micro-and Nanodevices</td>
<td>3</td>
<td>ECE 207 or ABE 447</td>
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<td>ABE 486 Biomaterial-Tissue Interactions</td>
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<td>CHEM 152</td>
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<td>AME 488 Micro and Nano Transducer Physics and Design</td>
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<tr>
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***AME 301 or ABE 423 required. One semester will be filled with a Tier II Gen. Ed.  
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### Biomechanics Track

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<td><strong>5th Semester</strong></td>
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<tr>
<td>ECE 207 Elements of Electrical Engineering</td>
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<tr>
<td>PSIO 202 Human Anatomy and Physiology II or ECOL 182 R/L Introductory Biology 2 and Laboratory</td>
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<td>CE 218 or AME 331 Fluid Mechanics</td>
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<td>CE 218</td>
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<td>ABE 423 Biosystems Analysis and Design (Spring Only)***</td>
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<td>SIE 305 Introduction to Engineering Probability and Statistics</td>
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<td>MATH 129</td>
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<tr>
<td>AME 466 Biomechanical Engineering</td>
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<td>AME 324A Mechanical Behavior of Engineering Materials</td>
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<td>AME 302 Numerical Methods</td>
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<td>AME 483 Micro Biomechanics</td>
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<td>AME 230 or ABE 284; MATH 223; AME 324A</td>
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<td>SIE 305 Introduction to Engineering Probability and Statistics</td>
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<td>MATH 129</td>
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<td>CHEM 241A Lectures in Organic Chemistry and CHEM 243A Organic Chemistry Laboratory I</td>
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<td>MSE 461 Biological and Synthetic Materials (Fall Only)</td>
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