# Biomedical Engineering and Mechanical Engineering Curriculum Checksheet - Effective Fall 2018 And After

## Program Total Credits = 157

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NAME [PREREQS (&quot;*&quot; DENOTES &quot;AND&quot;)]</th>
<th>TERM</th>
<th>CR</th>
<th>COURSE</th>
<th>COURSE NAME [PREREQS (&quot;*&quot; DENOTES &quot;AND&quot;)]</th>
<th>TERM</th>
<th>CR</th>
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</thead>
<tbody>
<tr>
<td>1st Year Fall</td>
<td>Overview of Biomedical Engineering</td>
<td>F</td>
<td>1</td>
<td>1st Year Spring</td>
<td>Attributes of Living Systems</td>
<td>F, S, SS</td>
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<tr>
<td>BIOM 100</td>
<td></td>
<td></td>
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<td>MATH 161</td>
<td>Calculus for Physical Scientists II (MATH 124; MATH 159 or MATH 160)</td>
<td>F, S, SS</td>
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<tr>
<td>CHEM 111</td>
<td>General Chemistry I (MATH 118 or 141 or 155 or 160 or 161 or 229 or 261; CHEM 105 or an appropriate score in the chemistry preparation module)</td>
<td>F, S, SS</td>
<td>4</td>
<td>MECH 105</td>
<td>Mechanical Engineering Problem Solving (MECH 103; MATH 160; PH 141 or conc.)</td>
<td>F, S</td>
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<tr>
<td>CHEM 112</td>
<td>General Chemistry Lab I (CHEM 111 or 117 or conc.)</td>
<td>F, S, SS</td>
<td>1</td>
<td>PH 141</td>
<td>Physics for Scientists and Engineers I (MATH 126 or conc.; MATH 155 or 159 or 160 or conc.)</td>
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<tr>
<td>CO 150</td>
<td>College Composition (CO 130 or placement by ACT or SAT or DSP Survey or Challenge Exam)</td>
<td>F, S, SS</td>
<td>3</td>
<td>MECH 301B</td>
<td>Introduction to Mechanical Engineering</td>
<td>F, S</td>
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<tr>
<td>MATH 160</td>
<td>Calculus for Physical Scientists I [MATH 124 and 126 (Better)]</td>
<td>F, S, SS</td>
<td>3</td>
<td>MECH 307</td>
<td>Engineering Design II (CHEM 107 or 111; MATH 124 or MATH 141, 155, 161, 161, 229, 261 or conc.)</td>
<td>F, S</td>
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<tr>
<td>MECH 103</td>
<td>Introduction to Mechanical Engineering</td>
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## 2nd Year Fall

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<tr>
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<th>CR</th>
<th>COURSE</th>
<th>COURSE NAME [PREREQS (&quot;*&quot; DENOTES &quot;AND&quot;)]</th>
<th>TERM</th>
<th>CR</th>
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<tbody>
<tr>
<td>BIOM 200</td>
<td>Fundamentals of Biomedical Engineering (BIOM 100 or conc.; LIFE 102; MATH 160)</td>
<td>F</td>
<td>2</td>
<td>CHEM 113</td>
<td>General Chemistry II (CHEM 107 or 111; MATH 124 or MATH 141, 155, 161, 229, 261 or conc.)</td>
<td>F, S, SS</td>
<td>3</td>
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<tr>
<td>MATH 261</td>
<td>Calculus for Physical Scientists III (MATH 161)</td>
<td>F, S, SS</td>
<td>4</td>
<td>MATH 340</td>
<td>Intro to Ordinary Differential Equations (MATH 255 or 261)</td>
<td>F, S, SS</td>
<td>4</td>
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<tr>
<td>MECH 201</td>
<td>Engineering Design I (MECH 105)</td>
<td>F, S</td>
<td>2</td>
<td>MECH 200</td>
<td>Introduction to Manufacturing Processes (MECH 105)</td>
<td>F, S</td>
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<tr>
<td>PH 142</td>
<td>Physics for Scientists and Engineers II (MATH 161 or 255 or F, S, SS</td>
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<td>MECH 231</td>
<td>Engineering Experimentation (MECH 105; PH 142)</td>
<td>F, S</td>
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<td>Total 16</td>
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## 3rd Year Fall

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<tr>
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<th>CR</th>
<th>COURSE</th>
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<tr>
<td>CIVE 360</td>
<td>Mechanics of Solids (CIVE 260)</td>
<td>F, S</td>
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<td>BIOM 300</td>
<td>Problem-Based Learning BME Lab (BIOM 101 or BIOM 200 or (BIOM 100; CBE 205; MECH 262); MATH 340 or 345)</td>
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<td>MECH 202</td>
<td>Engineering Design II (MECH 200 or conc.; MECH 201)</td>
<td>F, S</td>
<td>3</td>
<td>BMS 300</td>
<td>Principles of Human Physiology (BZ 101 or 110 or LIFE 102; MATH 124 or 141, 155, 161, 229, or conc.)</td>
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<tr>
<td>MECH 337</td>
<td>Thermodynamics (MATH 261; PH 141)</td>
<td>F, S</td>
<td>4</td>
<td>CHEM 245</td>
<td>Fundamentals of Organic Chemistry (CHEM 107 or 113)</td>
<td>F, S, SS</td>
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<td>MECH 342</td>
<td>Mechanics &amp; Thermodynamics of Flow Processes (MATH 340; MECH 337 or conc.; PH 141)</td>
<td>F, S</td>
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<td>MECH 324</td>
<td>Dynamics of Machines (CIVE 261; MATH 340 or conc.)</td>
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<tr>
<td>STAT 315</td>
<td>Statistics for Engineers and Scientists (MATH 155 or 160)</td>
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## 4th Year Fall

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<tr>
<td>BIOM 441</td>
<td>Biomechanics and Biomaterials (CIVE 360; MECH 342; BMS 300 or conc.; MECH 324 or conc.; MECH 331 or conc.)</td>
<td>F</td>
<td>3</td>
<td>MECH 301B</td>
<td>Engineering Design III (CIVE 360; MECH 202 or conc.; MECH 342); *MECH 3018 conc. with 301A</td>
<td>F, S</td>
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<td>ECE 204</td>
<td>Intro to Electrical Engineering (MATH 161; PH 142)</td>
<td>F, S</td>
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<td>MECH 307</td>
<td>Mechatronics and Measurement Systems (CIVE 261; ECE 204; MATH 340; MECH 231)</td>
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<td>MECH 325</td>
<td>Machine Design (CIVE 360)</td>
<td>F, S</td>
<td>3</td>
<td>MECH 338</td>
<td>Thermal/Fluid Sciences Lab (MECH 337; MECH 342; MECH 344 or conc.)</td>
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<td>MECH 331</td>
<td>Introduction to Engineering Materials (CHEM 111; MECH 112; MECH 231)</td>
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<td>MECH 344</td>
<td>Heat and Mass Transfer (MECH 342)</td>
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<td>LIFE 210</td>
<td>Introductory Eukaryotic Cell Biology (CHEM 111; CHEM 112; LIFE 102)</td>
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## 5th Year Fall

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<tr>
<td>BIOM 486A</td>
<td>Biomedical Design Practicum: Capstone Design I (BIOM 300; BIOM 421; CBE 320; CBE 442; or BIOM 431; ECE 311; ECE 332; ECE 342; or BIOM 441; MECH 301; MECH 307)</td>
<td>F</td>
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<td>BIOM 486B</td>
<td>Biomedical Design Practicum: Capstone Design II (BIOM 486A; (CBE 451 or (ECE 312) or (MECH 325; MECH 344; MECH 402) or (PH 353))</td>
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### Additional All University Core Courses (AUCCs)

- 6 cr - 3B Arts and Humanities: ____________ AND ____________
- 3 cr - 3C Social/Behavioral Science: ____________
- 3 cr - 3D Historical Perspective: ____________
- 3 cr - 3E Global/Cultural Awareness: ____________

### Key:

- "conc." = concurrent enrollment
- Term: F = Fall, S = Spring, SS = Summer Session
- Grey indicates Biomedical Engineering courses
- Light green indicates labs
- Red indicates exceptionally time-consuming/difficult courses

* Please note that curricula can change; be sure to check with your advisors regularly to ensure you are on track.