### MECHANICAL DESIGN CONCENTRATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 330</td>
<td>Intermediate Biomedical Design</td>
<td>4</td>
</tr>
<tr>
<td>or ME 329</td>
<td>Mechanical Systems Design</td>
<td></td>
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<tr>
<td>CE 207</td>
<td>Mechanics of Materials II ¹</td>
<td>2</td>
</tr>
<tr>
<td>IME 141</td>
<td>Manufacturing Processes: Net Shape</td>
<td>1</td>
</tr>
<tr>
<td>MATH 344</td>
<td>Linear Analysis II</td>
<td>4</td>
</tr>
<tr>
<td>ME 228</td>
<td>Engineering Design Communication</td>
<td>2</td>
</tr>
<tr>
<td>ME 251</td>
<td>Introduction to Detailed Design with Solid Modeling</td>
<td>2</td>
</tr>
<tr>
<td>ME 328</td>
<td>Design for Strength and Stiffness</td>
<td>4</td>
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</tbody>
</table>

**Approved Technical Electives**

Select from the following: 7-8 units

- BMED/CE/ME 404: Applied Finite Element Analysis
- BMED 525: Skeletal Tissue Mechanics
- IME 418: Product-Process Design
- IME 430: Quality Engineering
- IME 435: Reliability for Design and Testing
- IME 527: Design of Experiments
- ME 318: Mechanical Vibrations
- ME 326: Intermediate Dynamics
- ME 401: Stress Analysis
- ME 402: Orthopedic Biomechanics
- ME 403: Access by Design: Introduction to Rehabilitation Engineering
- ME 410: Experimental Methods in Mechanical Design I
- ME 412: Composite Materials Analysis and Design

**Approved Electives**

Select from the following: 3-5 units

- BIO 232: Human Anatomy and Physiology II
- BIO 302: Human Genetics
- BIO 303: Survey of Genetics
- CHEM 312: Organic Chemistry: Fundamentals and Applications
- CHEM/MATE 446: Surface Chemistry of Materials

**Total units:** 29-32

¹ For students following the General Curriculum or Mechanical Design Concentration in BS Biomedical Engineering, CE 208 (5) may substitute for both CE 204 (3) and CE 207 (2).