# MECHANICAL DESIGN CONCENTRATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BMED 330</td>
<td>Intermediate Biomedical Design</td>
<td>4</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>
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<tr>
<td>MATH 344</td>
<td>Linear Analysis II</td>
<td>4</td>
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<tr>
<td>ME 228</td>
<td>Engineering Design Communication</td>
<td>2</td>
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<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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**Approved Technical Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BMED/CE/ME 404</td>
<td>Applied Finite Element Analysis</td>
</tr>
<tr>
<td>BMED 525</td>
<td>Skeletal Tissue Mechanics</td>
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<tr>
<td>IME 418</td>
<td>Product-Process Design</td>
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<tr>
<td>IME 430</td>
<td>Quality Engineering</td>
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<tr>
<td>IME 435</td>
<td>Reliability for Design and Testing</td>
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<td>IME 527</td>
<td>Design of Experiments</td>
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<tr>
<td>ME 318</td>
<td>Mechanical Vibrations</td>
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<tr>
<td>ME 326</td>
<td>Intermediate Dynamics</td>
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<td>ME 401</td>
<td>Stress Analysis</td>
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<tr>
<td>ME 402</td>
<td>Orthopedic Biomechanics</td>
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<td>ME 410</td>
<td>Experimental Methods in Mechanical Design I</td>
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<td>ME 412</td>
<td>Composite Materials Analysis and Design</td>
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**Approved Support Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIO 232</td>
<td>Human Anatomy and Physiology II</td>
</tr>
<tr>
<td>BIO 302</td>
<td>Human Genetics</td>
</tr>
<tr>
<td>BIO 303</td>
<td>Survey of Genetics</td>
</tr>
<tr>
<td>CHEM 312</td>
<td>Survey of Organic Chemistry</td>
</tr>
<tr>
<td>CHEM/MATE 446</td>
<td>Surface Chemistry of Materials</td>
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</tbody>
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**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).