In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 6 credits of these courses to count towards both Requirements.

**Major Requirements**

**Engineering Fundamental Course(s)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit(s) attained</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 1021</td>
<td>3</td>
</tr>
<tr>
<td>COMP 1022P</td>
<td>3</td>
</tr>
<tr>
<td>COMP 1022Q</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2011</td>
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<tr>
<td>ENGG 1010</td>
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<tr>
<td>LANG 2030</td>
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<tr>
<td>MATH 1012</td>
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<tr>
<td>MATH 1013</td>
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<tr>
<td>MATH 1014</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1020</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1023</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1024</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2011</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2111</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2350</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2351</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1112</td>
<td>3</td>
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<tr>
<td>PHYS 1312</td>
<td>3</td>
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<tr>
<td>CHEM/LIFS/PHYS</td>
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</table>

Note: COMP 1021 OR COMP 1022P OR COMP 1022Q OR COMP 2011

Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]
Required Course(s)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
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<tbody>
<tr>
<td>MECH 1990</td>
<td>Industrial Training</td>
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<tr>
<td>MECH 2020</td>
<td>Statics and Dynamics</td>
<td>3</td>
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<tr>
<td>MECH 2040</td>
<td>Solid Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>MECH 2210</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>MECH 2310</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>MECH 2410</td>
<td>Engineering Materials I</td>
<td>3</td>
</tr>
<tr>
<td>MECH 2520</td>
<td>Design and Manufacturing I</td>
<td>3</td>
</tr>
<tr>
<td>MECH 2907</td>
<td>Mechatronic Design and Prototyping</td>
<td>3</td>
</tr>
<tr>
<td>MECH 3030</td>
<td>Mechanisms of Machinery</td>
<td>3</td>
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<tr>
<td>MECH 3300</td>
<td>Energy Conversion</td>
<td>3</td>
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<tr>
<td>MECH 3420</td>
<td>Engineering Materials II</td>
<td>3</td>
</tr>
<tr>
<td>MECH 3520</td>
<td>Design and Manufacturing II</td>
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<tr>
<td>MECH 3310</td>
<td>Heat Transfer</td>
<td>3</td>
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<tr>
<td>MECH 3610</td>
<td>Control Principles</td>
<td>3</td>
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<tr>
<td>MECH 3630</td>
<td>Electrical Technology</td>
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<tr>
<td>MECH 3830</td>
<td>Laboratory</td>
<td>3</td>
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<tr>
<td>MECH 4900</td>
<td>Final Year Design Project</td>
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<tr>
<td>ELEC 2420</td>
<td>Basic Electronics</td>
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<tr>
<td>ENGG 2010</td>
<td>Engineering Seminar Series</td>
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<tr>
<td>LANG 4034</td>
<td>Technical Communication II for Mechanical and Aerospace Engineering</td>
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</tbody>
</table>

Note: MECH 3300 OR MECH 3420 OR MECH 3520

Option(s)

Energy Option

Elective Course(s)  Minimum credit(s) required

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Minimum credit(s) required</th>
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</thead>
<tbody>
<tr>
<td>MECH 1902</td>
<td>Energy Systems in a Sustainable World</td>
<td>3</td>
</tr>
<tr>
<td>MECH 3300</td>
<td>Energy Conversion</td>
<td>3</td>
</tr>
<tr>
<td>MECH 3420</td>
<td>Engineering Materials II</td>
<td>3</td>
</tr>
</tbody>
</table>

Student may opt to graduate with or without an option. Students who take an option MUST complete all requirements specified in addition to the major requirements.
### School of Engineering - BEng in Mechanical Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH 4010</td>
<td>Materials Failure in Mechanical Applications</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4110</td>
<td>Materials for Energy Technologies</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4340</td>
<td>Air Conditioning Systems</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4350</td>
<td>Indoor Air Quality in Buildings</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4360</td>
<td>Introduction to Intelligent Building Systems</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4430</td>
<td>Materials Characterization</td>
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</table>

### Engineering Design Option

**Elective Course(s)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
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</thead>
<tbody>
<tr>
<td>MECH</td>
<td>MECH Electives in Engineering Design (3 courses from the specified elective list. Courses taken as Major Required Courses or Elective Courses of other MECH Options may not be counted towards this elective requirements.)</td>
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<tr>
<td>MECH 1901</td>
<td>Automotive Engineering</td>
<td>3</td>
</tr>
<tr>
<td>MECH 3510</td>
<td>CAD/CAM</td>
<td>3</td>
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<tr>
<td>MECH 3520</td>
<td>Design and Manufacturing II</td>
<td>3</td>
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<tr>
<td>MECH 3710</td>
<td>Manufacturing Processes and Systems</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4710</td>
<td>Introduction to Robotics</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4720</td>
<td>Introduction to Precision Engineering</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4740</td>
<td>Numerical Methods in Engineering</td>
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</tbody>
</table>

### Materials Option

**Elective Course(s)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
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</thead>
<tbody>
<tr>
<td>MECH</td>
<td>MECH Electives in Materials (3 courses from the specified elective list. Courses taken as Major Required Courses or Elective Courses of other MECH Options may not be counted towards this elective requirements.)</td>
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<tr>
<td>MECH 3020</td>
<td>Solid Mechanics II</td>
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<tr>
<td>MECH 3420</td>
<td>Engineering Materials II</td>
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<tr>
<td>MECH 4010</td>
<td>Materials Failure in Mechanical Applications</td>
<td>3</td>
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<tr>
<td>MECH 4110</td>
<td>Materials for Energy Technologies</td>
<td>3</td>
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<tr>
<td>MECH 4430</td>
<td>Materials Characterization</td>
<td>3</td>
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<tr>
<td>MECH 4450</td>
<td>Introduction to Finite Element Analysis</td>
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</tr>
<tr>
<td>MECH 4750</td>
<td>Mechanical Vibration</td>
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### Research Option

**Required Course(s)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
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</thead>
<tbody>
<tr>
<td>MECH 4995</td>
<td>Research Project</td>
<td>6</td>
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</table>