ENERGY ENGINEERING INTERDISCIPLINARY MINOR

Office in Scott BioEngineering Building, Room 102 (970) 491-6220

Coordinated by a Faculty Advisory Board

The Energy Engineering interdisciplinary minor is designed to provide students in Engineering and the sciences with an understanding of renewable and non-renewable energy systems; clean energy technologies; basic principles of operation of energy extraction, conversion, storage, and transmission systems; and depth in current and new energy methods and applications (e.g., PV, batteries, biofuels, etc.).

The goal of the program is to empower engineers and scientists to be technological catalysts for sustainable solutions to the grand challenges of energy.

The interdisciplinary minor requires completion of 22-24 credits, with at least 12 credits greater than or equal to 300-level courses. All undergraduates are required to complete 5 credits of core courses and a 3-credit science elective. The remaining 14-16 credits of technical electives are chosen according to the student's major and interests.

Effective Fall 2012

Students must satisfactorily complete the total credits required for the minor. Minors and interdisciplinary minors require 12 or more upper-division (300- to 400-level) credits.

Additional coursework may be required due to prerequisites.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Courses</strong></td>
<td></td>
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<tr>
<td>ECE 465</td>
<td>Electrical Energy Generation Technologies</td>
<td>3</td>
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<tr>
<td>MECH 303</td>
<td>Energy Engineering</td>
<td>3</td>
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<tr>
<td><strong>Core Science Energy Elective</strong></td>
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<tr>
<td>Select one course from the following:</td>
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<td>3</td>
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<tr>
<td>ATS 150</td>
<td>Science of Global Climate Change</td>
<td></td>
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<tr>
<td>BZ 353/ NR 353</td>
<td>Global Change Ecology, Impacts and Mitigation</td>
<td></td>
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<tr>
<td><strong>Core Engineering Science Energy Elective</strong></td>
<td></td>
<td>3-4</td>
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<tr>
<td>Select one course from the following:</td>
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<tr>
<td>CBE 210</td>
<td>Thermodynamic Process Analysis</td>
<td></td>
</tr>
<tr>
<td>ECE 341</td>
<td>Electromagnetic Fields and Devices I</td>
<td></td>
</tr>
<tr>
<td>MECH 237</td>
<td>Introduction to Thermal Sciences</td>
<td></td>
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<tr>
<td>MECH 337</td>
<td>Thermodynamics</td>
<td></td>
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<tr>
<td>PH 361</td>
<td>Physical Thermodynamics</td>
<td></td>
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<td><strong>Energy Technical Electives</strong></td>
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<td>11</td>
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<tr>
<td>Select a minimum of 11 credits from the following:</td>
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<tr>
<td>ECE 342</td>
<td>Electromagnetic Fields and Devices II</td>
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<tr>
<td>ECE 411</td>
<td>Control Systems</td>
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<tr>
<td>ECE 441</td>
<td>Optical Electronics</td>
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<td>ECE 444</td>
<td>Antennas and Radiation</td>
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<tr>
<td>ECE 461</td>
<td>Power Systems</td>
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<tr>
<td>ECE 466</td>
<td>Integrated Lighting Systems</td>
<td></td>
</tr>
<tr>
<td>MECH 417</td>
<td>Control Systems</td>
<td></td>
</tr>
</tbody>
</table>

Program Total Credits: 23-24

1 Select enough credits in consultation with engineering academic advisor to bring program total to a minimum of 23 credits.