ELECTRICAL ENGINEERING MINOR

Prerequisite Courses (11 hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 141</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 142</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 242</td>
<td>Elementary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>

Minor Requirements (18 Hours)

The minor in Electrical Engineering requires the completion of at least 18 credit hours consisting of four core courses and two approved elective courses that make a coherent sequence, composed as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 102</td>
<td>Electrical Science</td>
<td>3</td>
</tr>
<tr>
<td>or ELCT 220</td>
<td>Electrical Engineering for Non-Majors</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 221</td>
<td>Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 222</td>
<td>Signals and Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 371</td>
<td>Electronics</td>
<td>3</td>
</tr>
<tr>
<td>Required Intermediate Course</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Select any ELCT course at the 300-level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required Advanced Course</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Select any 500-level ELCT course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

1 Note that 500-level courses generally have a prerequisite at the 300-level, so the Intermediate and Advanced courses should be chosen consistently. Some 500-level courses may have two prerequisites at the 300-level, which could then require taking an additional three hours.

Recommended or Examples of Sequences

The following sequences of intermediate and Advanced courses are suggested as examples. Many other sequences are possible. A student’s particular sequence should be chosen in consultation with an EE faculty advisor.

For Interest in Electric Power or Electric Utility Industries

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 331</td>
<td>Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 451</td>
<td>Power Systems Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

For Interest in Power Electronics, Power Conversion, Electrical Propulsion, and Actuation for Automobiles, Aircraft, Robotics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 331</td>
<td>Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 572</td>
<td>Power Electronics</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

For Interest in Wireless Data Communications and Microwave Electronics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 361</td>
<td>Electromagnetics</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 564</td>
<td>RF Circuit Design for Wireless Communications</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

For Interest in Semiconductor Devices or Optoelectronics Devices or Sensors

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 363</td>
<td>Introduction to Microelectronics</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 563</td>
<td>Semiconductor Devices for Power, Communications and Lighting</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

For Interest in Manufacturing Industries

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 331</td>
<td>Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 430</td>
<td>Industrial Controls</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

For Interest in Renewable Energy Industries

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 363</td>
<td>Introduction to Microelectronics</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 510</td>
<td>Photovoltaic Materials and Devices</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>