## CURRICULUM LEADING TO THE BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

**Beginning Catalog Year: 2015**

**Hours required: 131**

### General Education and Critical Tracking Courses: 48 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 3246</td>
<td>Professional Comm for Engrs</td>
<td>3</td>
</tr>
<tr>
<td>HUM 2305</td>
<td>What is the Good Life?</td>
<td>3</td>
</tr>
<tr>
<td>Humanities (GE-H)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Social Science (GE-S)</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Composition (GE-C)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Humanities or Social Science (GE-H/GE-S)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*Humanities and Social Sciences courses should be chosen to also satisfy International Studies and Diversity requirements.*

### EE Core Courses: 30 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEL 3000</td>
<td>Intro to ECE</td>
<td>2</td>
</tr>
<tr>
<td>EEL 3111C</td>
<td>Circuits 1</td>
<td>4</td>
</tr>
<tr>
<td>EEL 3008</td>
<td>Physics of Electrical Engr</td>
<td>3</td>
</tr>
<tr>
<td>EEL 3112</td>
<td>Circuits 2</td>
<td>3</td>
</tr>
<tr>
<td>EEL 3135</td>
<td>Signals &amp; Systems</td>
<td>4</td>
</tr>
<tr>
<td>EEL 3701C</td>
<td>Digital Logic &amp; Computer Sys</td>
<td>4</td>
</tr>
<tr>
<td>EEL 3923C</td>
<td>Electrical Engr Design 1</td>
<td>3</td>
</tr>
<tr>
<td>EEL 3744C</td>
<td>Microprocessor Applications</td>
<td>4</td>
</tr>
<tr>
<td>EEL 4924C</td>
<td>Electrical Engr Design 2</td>
<td>3</td>
</tr>
</tbody>
</table>

### EE Breadth Courses: 12 credits

Choose 3 courses from this list:

- EEL 3211C Basic Electric Energy ... 4
- EEE 3308C Electronic Circuits 1 ... 4
- EEE 3396C Solid State Devices ... 4
- EEL 3472C Electromagnetic Fields & Apps 1 ... 4
- EEE 4260C Bioelectrical Systems ... 4
- EEL 4511C Real Time Digital Signal Process ... 4
- EEL 4514C Communications ... 4
- EEL 4657C Linear Controls ... 4
- EEL 4712C Digital Design ... 4

### EE Depth Courses: 6 credits

Choose 2 courses. Courses must be from 2 different areas. See the approved list of depth elective courses.

### EE Technical Electives: 17 credits

Any 3000 level or higher course in ECE with the exception of EEL 3003.

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**Technical Breadth Courses: 18 Credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAS 3114</td>
<td>Computational Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>STA 3032</td>
<td>Engineering Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Computer Programming</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>COP 2271 &amp; COP 2271L Computer Programming for Engineers &amp; Lab (C++ or C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COP 3275 Programming Using C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EEL 3834</td>
<td>Programming for ECE</td>
<td></td>
</tr>
</tbody>
</table>

General Technical Electives ... 9

*Any 3000/4000-level non-ECE course in the College of Engineering, from the Math Department with an MAA, MAD, MAP, MAS prefix, or from the Physics Department with the exception of PHY 3400.*

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Revised 1/28/2015
**Approved EE Depth Electives**
Choose 2 courses from the list below. Courses must be from 2 different areas.

Any additional courses taken from this list beyond the required two courses will be applied as EE technical electives. Courses cannot be used to simultaneously satisfy both depth and technical elective requirements.

This list is subject to change. Students should contact the EE Undergraduate Advisor for any changes to this list.

### Bioelectrical Systems
*Prereq: EEL 4260C – Bioelectrical Systems*
- BME 4931 Neural Systems Modeling ...............3
- BME 4931 Neural Engineering ......................3
- BME 4931 Bioinformatics ............................3

### Communications
*Prereq: EEL 4514C – Communication Systems*
- EEL 4516 Noise in Linear Systems .................3
- EEL 4598 Data Computer Comm ....................3

### Computer
*Prereq: EEL 4712C – Digital Design*
- EEL 4713 Digital Computer Architecture ..........4
- EEL 4720 Reconfigurable Computing .................3
- EEL 4736 Principles of Comp Sys Design ..........3

### Controls
*Prereq: EEL 4657C – Linear Controls*
- EEL 4610 State Variables and Controls ............3

### Devices
*Prereq: EEL 3396C – Solid State Devices*
- EEE 4329 Future of Microelect Tech .................3
- EEE 4331 Microelectronic Fab Tech ................3
- EEL 4420 Intro to Nanodevices .......................3

### Digital Signal Processing
*Prereq: EEL 4511C – Real-Time DSP*
- EEL 4750 Fdns of Digital Signal Process ..........3

### Electromagnetics
*Prereq: EEL 3472C – Electromagnetic Fields & Applications 1*
- EEL 4440 Optical Communication Sys ................3
- EEL 4458 Fundamentals of Photonics ...............3
- EEL 4461 Antenna Systems ............................3
- EEL 4473 Electromagnetics & Fields 2 ................3
- EEL 4495 Lightning .....................................3

### Electric Energy (Power)
*Prereq: EEL 3211C Basic Electric Energy*
- EEL 4251 Power System Analysis .....................3

### Electronics
*Prereq: EEE 3308C – Electronic Circuits 1*
- EEE 4306 Electronic Circuits ........................3
- EEE 4310 Digital Integrated Circuits ...............3
- EEE 4373 Radio-Frequency Electronics ...............3