## Electrical Engineering Degree 2018-2019

To schedule an appointment with an academic advisor, please visit us at ECE.utah.edu/advising.  
ALL MAJOR CLASSES MUST BE LETTER GRADED | CR/NC IS NOT AN OPTION

### Pre-Electrical Core: 16 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 1240</td>
<td>4.0</td>
<td>Introduction to ECE Design</td>
</tr>
<tr>
<td>ECE 1245</td>
<td>0.5</td>
<td>Introduction to ECE Design Lab</td>
</tr>
<tr>
<td>ECE 1050</td>
<td>0.5</td>
<td>MATLAB</td>
</tr>
<tr>
<td>PHYS 2210</td>
<td>4.0</td>
<td>Physics for Engineers I</td>
</tr>
<tr>
<td>PHYS 2210/1310</td>
<td>4.0</td>
<td>Calculus I</td>
</tr>
<tr>
<td>PHYS 1220/1320</td>
<td>4.0</td>
<td>Calculus II</td>
</tr>
</tbody>
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**Must be completed with a “C-” or higher**

**ADMISSION:** Students should apply for admission to the B.S. Electrical Engineering program when they are taking their final pre-Electrical course(s) by submitting an online application at ece.utah.edu/admissions

- Pre-major GPA: 2.8 or higher
- Cumulative GPA: 2.8 or higher

**TRANSFER CREDIT:** Students who have transfer credit that may fulfill a B.S. Electrical Engineering requirement may petition for equivalency at ECE.utah.edu/transfer

### Math/Science Core: 19-20 credits

If students take MATH 1310/1320, then:

- **Math 3140** (4.0) – PDEs and Vector Calculus

If students take MATH 1210/1220, then:

- **Math 2210** (3.0) – Calculus III
- **Math 3150** (2.0) – Partial Differential Equations

All students must complete:

- **MATH 2250** (4.0) – Differential Equations/Linear Algebra
- **MATH 3160** (2.0) – Applied Complex Variables
- **PHYS 2220** (4.0) Physics for Engineers II

Then choose one additional science lecture and lab component:

- **CHEM 1210** (4.0) – General Chemistry (or **PHYS 2215** (1.0) – Physics for Engineers I Lab or **PHYS 2225** (1.0) – Physics for Engineers II Lab)

Labs will count for 1.0 c/h of non-ECE technical elective credit

### Writing Core: 6 credits

<table>
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<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>WRTG 2010</td>
<td>3.0</td>
<td>Intermediate Writing</td>
</tr>
<tr>
<td>ECE 3030</td>
<td>3.0</td>
<td>Technical Communications</td>
</tr>
</tbody>
</table>

*Will accept Honor 2211 or Honor 3200*
## Major Requirements: 38 credits

- **LEAP 1500 (3.0)** – LEAP Seminar in Humanities
- **LEAP 1501 (3.0)** – Ethics in Engineering
- **CS 1410-040 (4.0)** – Object-oriented Programming
- **ECE 1900 (1.0)** – Freshman Seminar
- **ECE 2240 (4.0)** – Circuits
- **ECE 2280 (4.0)** – Electronics Fundamentals
- **ECE 3200 (4.0)** – Semiconductor Devices
- **ECE 3300 (4.0)** – EM & Transmission Lines
- **ECE 3500 (4.0)** – Signals & Systems
- **ECE 3530 (3.0)** – Engineering Probability & Statistics
- **ECE 3700 (4.0)** – Digital System Design

## Capstone Experience: 6 credits

- **ECE 3900 (1.0)** – Junior Seminar
- **ECE 4900 (2.0)** – Senior Thesis I
- **ECE 4910 (3.0)** – Senior Thesis II

## Advanced Technical Electives: 27 credits

- **Pick 3 Breadth Electives**
  - Electronics & Semiconductor Dev.
  - ECE 3110

- **Microwaves & Optics**
  - ECE 5320, 5324, 5325, 5330, 5340, 5410

- **Signals & Systems**
  - CE 3510, 5510, 5530

- **Computer & Digital Design**
  - ECE 3810

- **Power, Energy, & Control**
  - ECE 3600

Then pick additional classes to total 27 credits:
- ECE 3xxx or higher, not already required

## General Education: 15-18 credits

- **American Institutions**
  - ECON 1740, HIST 1700 or POLS 1100

- **Fine Arts 1 (FF)**

- **Fine Arts 2 (FF)**

- **Humanities 1 (HF)**
  - Satisfied by LEAP 1500 (3.0)

- **Humanities 2 (HF)**

- **Behavioral Science 1 (BF)**
  - Satisfied by LEAP 1501 (3.0)

- **Behavioral Science 2 (BF)**

- **Diversity (DV)**
  - Satisfied by LEAP 1500 (3.0)

- **International Requirement (IR)**

## Departmental Requirements

- 2.5 Cumulative GPA (all U of U courses)
- 2.5 Technical GPA (all U of U ECE and CS courses)
- Total degree hours: 126-130