**Electrical Engineering Degree** (Fall 2022 and later)

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-major requirements: 4 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1210/1310</td>
<td>4 (4.0)</td>
<td>Calculus I</td>
</tr>
</tbody>
</table>

Cumulative GPA: 2.8 or higher

**ADMISSION:** Students should apply for admission to the B.S. Electrical Engineering program. Students will be Pre-Electrical Engineering Status until they have completed the pre-major requirements. When they are taking their final pre-Electrical course(s), they can apply for full major status 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: 25-26 credits

All students must complete:

- MATH 1220/1320 (4.0) – Calculus II

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
- PHYS 2210 (4.0) – Physics for Engineers I
- PHYS 2220 (4.0) Physics for Engineers II

Then choose one additional science lecture and lab component:

- CHEM 1210 (4.0) – General Chemistry
  - or
  - BIOL 1210 (4.0) – General Biology

  *and*

- PHYS 2215 (1.0) – Physics for Engineers I Lab
  - or
  - PHYS 2225 (1.0) – Physics for Engineers II Lab
  - or
  - CHEM 1215 (1.0) – General Chemistry Lab
  - or
  - BIOL 1615 (1.0) – General Biology Lab

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

### Writing Core: 6 credits

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>WRTG 2010</td>
<td>3 (3.0)</td>
<td>Intermediate Writing</td>
</tr>
<tr>
<td>ECE 3030</td>
<td>3 (3.0)</td>
<td>Technical Communications</td>
</tr>
</tbody>
</table>

- Will accept Honor 2211
- Will accept Honor 3200
**Core Requirements: 27-31 credits**

- **ECE 1900 (1.0)** – Freshman Seminar
- **ECE 1240 (4.0)** – Introduction to ECE Design
- **ECE 1245 (0.5)** – Introduction to ECE Design Lab
- **ECE 1050 (0.5)** – MATLAB
- **LEAP 1500 (3.0)** – LEAP Seminar in Humanities
- **LEAP 1501 (3.0)** – Ethics in Engineering
- **CS 1420 (4.0)** – Accelerated Object-oriented Programming **OR CS 1400 (4.0) & CS 1410 (4.0)**
- **ECE 2240 (3.0)** – Circuits
- **ECE 2245 (1.0)** – Circuits Lab
- **ECE 2280 (3.0)** – Electronics Fundamentals
- **ECE 2285 (1.0)** – Electronics Lab
- **ECE 3530 (3.0)** – Engineering Probability & Statistics

**Capstone Experience: 9 credits**

- **ECE 3900 (1.0)** – Junior Seminar
- **ECE 4900 (4.0)** – Senior Thesis I
- **ECE 4910 (4.0)** – Senior Thesis II

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**Breadth Electives: 15-16 credits**

Pick 4 Breadth Electives

- **ECE 3110 (4.0)** Engineering Electronics II
- **ECE 3200 (3.0)** Semiconductor Devices
- **ECE 3300/3305 (4.0)** Electromagnetics*
- **ECE 3500 (4.0)** Signals and Systems*
- **ECE 3510 (4.0)** Intro Feedback Systems
- **ECE 3600 (4.0)** Intro Electric Power Engineering
- **ECE 3700 (4.0)** Digital System Design*
- **ECE 3810 (4.0)** Computer Architecture*

* take 1 starred class to fulfill QI

Breadth credit hours are included in technical electives below.

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**Technical Electives: 39 credits**

Pick additional ECE 3000 level or higher classes to total 39 credits:

- Need 3 units ECE 5000 level or higher
- Includes breadth electives taken above
- Up to 10 units of approved non-ECE TE
- Up to 8 units of research and other special topics

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**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)**
  - * certain classes fulfill both IR and HF, FF or BF

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**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: 122