# Electrical Engineering

**Graduation Requirements**
University of Washington
https://ee.washington.edu

<table>
<thead>
<tr>
<th>ENGRUD Requirement Sheet – Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>◆ = Placement Requirements</td>
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</tbody>
</table>

## Placement Periods
- Placement 1 = July 1 at end of first year
- Placement 2 = January 15 of second year
- Placement 3 = July 1 at end of second year

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### Mathematics (27-28cr)

- ◆ MATH 124, 125, 126 - Calculus with Analytical Geometry I, II, III (15cr)
- MATH 307 - Introduction to Differential Equations (3cr)
- MATH 308 - Matrix Algebra with Applications (3cr)
- MATH 324 - Advanced Multi-Variable Calculus (3cr)
- One course from the following: IND E 315 (3cr); STAT 390 (4cr); STAT 391 (4cr), MATH/STAT 394 (3cr)

### Sciences (20cr)

- ◆ CHEM 142 - General Chemistry (5cr)
- ◆ PHYS 121 - Mechanics (5cr)
- ◆ PHYS 122 - Electromagnetism (5cr)
- PHYS 123 - Waves (5cr)

### Engineering General Education Requirements (37cr)

**Written and Oral Communication (12cr):**

- ◆ English Composition (5cr)
- ENGR 231 - Intro to Technical Communication (3cr)
- E E 393 - Advanced Technical Writing in Electrical Engineering (4cr)

**Areas of Knowledge:**

- Visual, Literary & Performing Arts - VLPA (10cr)
- Individuals & Society - I&S (10cr)
- VLPA or I&S (5cr)
- Diversity-DIV (3cr) (may overlap with VLPA/I&S)

### Engineering Fundamentals (9cr)

- CSE 142 - Computer Programming I (4cr)
- CSE 143 - Computer Programming II (5cr)

### Departmental Core (14cr)

- E E 215 - Fundamentals of Electrical Engineering (4cr)
- E E 233 - Circuit Theory (5cr)
- E E 235 - Continuous Time Linear Systems (5cr)

### Professional Issues (1 credit min)

### Departmental Concentration Electives (44cr)

Complete at least one of the below major concentrations and enough additional EE courses to reach a minimum of 44 credits. May include up to 12 credits of experiential learning, including EE 499 and up to 4 credits of ENGR 321.

Concentrations to choose from include:
- Biomedical Instrumentation
- Communications
- Controls
- Digital Signal Processing
- Digital Very Large Scale Integration (VLSI)
- Electromagnetics
- Embedded Computing Systems
- Integrated Systems
- Power Electronics and Electric Drives
- Sustainable Power Systems
- Sensors and Devices

### Engineering Electives

Students may choose 200+ level courses from both the EE department and any other ENGR departments to fulfill this requirement.

### Approved non-EE Electives (10cr)

Refer to the EE website for a list of specific courses.

### Free Electives (8-9cr)

Additional coursework in any subject area not used elsewhere in degree.

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**Total credits required for graduation: 180cr**

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*Honors or accelerated sequences of math and chemistry can satisfy some of the above requirements. AMATH 351/352/353 satisfies the Math 307/308/309 sequence.*

*Updated September 2018*
This is a sample four-year plan for ENGRUD students. It is intended to provide a framework for ENGRUD students to reference as they create their own individual academic plan.

Courses required to request placement for ENGRUD students: MATH 124, MATH 125, MATH 126; PHYS 121, PHYS 122, AND CHEM 142; 5 credits of English Composition.

<table>
<thead>
<tr>
<th>Year</th>
<th>Autumn Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>MATH 124 - Calculus with Analytical Geometry I</td>
<td>5</td>
<td>MATH 125 - Calculus with Analytical Geometry II</td>
</tr>
<tr>
<td></td>
<td>CHEM 142 - General Chemistry</td>
<td>5</td>
<td>PHYS 121 - Mechanics</td>
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<tr>
<td></td>
<td>VLPA/I&amp;S</td>
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<td>English Composition</td>
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<tr>
<td></td>
<td>VLPA/I&amp;S</td>
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<td>ENGR 101 &amp; GEN ST 199</td>
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<td>E-FIG; ENGR 101 &amp; GEN ST 199</td>
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<tr>
<td>Sophomore</td>
<td>PHYS 123 - Waves</td>
<td>5</td>
<td>CSE 142 - Comp Programming I</td>
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<tr>
<td></td>
<td>MATH 307 - Differential Equations</td>
<td>3</td>
<td>MATH 308 - Matrix Algebra</td>
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<tr>
<td></td>
<td>ENGR Elective</td>
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<td>Approved Non-EE Elective*</td>
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<td></td>
<td>Free Elective</td>
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<td>Qtr. Total: 15</td>
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<tr>
<td>Junior</td>
<td>EE 215 - Fundamentals of EE</td>
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<td>EE 233 - Circuit Theory</td>
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<td>EE 235 - Signal Analysis</td>
<td>5</td>
<td>EE 393 - Advanced Technical Writing</td>
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<td>ENGR 231 - Intro to Technical Writing</td>
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<td>EE Course</td>
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<td>ENGR Elective</td>
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<td>4</td>
<td>EE Course</td>
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<tr>
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<td>ENGR Elective</td>
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<td>VLPA/I&amp;S/DIV</td>
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<td>Statistics Requirement</td>
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<td>VLPA/I&amp;S</td>
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<td>Qtr. Total: 15</td>
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</tbody>
</table>

* = Placement Requirement
*= See EE website for list of electives

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