Electrical Engineering Degree (Fall 2024 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

MATH 1210/1310 (4.0) – Calculus I
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

Writing Core: 9 credits

WRTG 1010 (3.0) – Intro to Writing
WRTG 2010 (3.0) – Intermediate Writing
Will accept Honor 2211
ECE 3030 (3.0) – Technical Communications
Will accept Honor 3200 or (WRTG3015 & COMM1020)

Math/Science Core: 29 credits

All students must complete:
MATH 1210/1310 (4.0) - Calculus I
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
ECE 3530/CS3130 (3.0) – Engineering Probability & Statistics
PHYS 2210 (4.0) **–** Physics for Engineers I
PHYS 2220 (4.0) Physics for Engineers II

Then choose one additional math/science elective.
Valid electives include MATH, PHYS, CHEM, BIO classes (>1210 level) or CS 2100.
Must have a minimum of 29 credit hours of math and science.

Core Requirements: 27-31 credits

ECE 1900 (1.0) – Freshman Seminar
ECE 1240 (4.0) – Circuits & Systems I
ECE 1245 (0.5) – Circuits & Systems I Lab
ECE 1050 (0.5) – MATLAB
LEAP 1500* (3.0) – Engineering & Identity
*Recommended but not required
LEAP 1501 (3.0) – Ethics in Engineering
CS 1400 (4.0) & CS 1410 (4.0) –Intro to Computer Programming *OR*
CS 1420 (4.0) – Accelerated Object-oriented Programming
ECE 2240 (3.0) – Circuits & Systems Linear
ECE 2245 (1.0) – Circuits & Systems Linear Lab
ECE 2280 (3.0) – Circuits & Systems Active
ECE 2285 (1.0) – Circuits & Systems Active Lab
ECE 3530/CS3130 (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

Breadth Electives: 15-16 credits

Pick 3 Breadth Electives

ECE 3110 (4.0) Analog Circuit Design
ECE 3200 (3.0) Semiconductor Physics
ECE 3300/3305 (4.0) Electromagnetics*
ECE 3500 (4.0) Signals and Systems*
ECE 3600 (4.0) Intro Electric Power
ECE 3610 (3.0) Intro to Robotics
ECE 3700 (4.0) Digital System Design*
ECE 3810 (4.0) Computer Organization*
ECE 5615 (4.0) Classical Control Systems
* take 1 starred class to fulfill QI
Breadth credit hours are included in technical electives below.

Technical Electives: 33 credits

Pick additional ECE 3000 level or higher classes to total 33 credits:

- Need 3 credit hours ECE 5000 level or higher
- Includes breadth electives taken above
- Up to 9 credit hours of approved non-ECE TE
- Up to 8 credit hours of research and other special topics

General Education: 24-28 credits

American Institutions (AI)
ECON 1740, HIST 1700 or POLS 1100

Fine Arts 1 (FF)

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

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

Diversity (DV)
Satisfied by LEAP 1500 (3.0)

International Requirement (IR)
* certain classes fulfill both IR and HF, FF or BF

Upper Division Writing Requirement (CW)
Satisfied by ECE3030

Life Science Requirement (LS)
Satisfied by BIOL 1610, can also be used as Technical Elective credit

Physical Science (PS)
Satisfied by PHYS2210 and PHYS2220

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