BYU IDAHO | Department of Computer Science and Engineering

B.S. Electrical Engineering

Suggested Four-Year Plan

for those starting in 2026-2027

Freshman Year

Religion Cornerstone (2)	Religion Cornerstone (2)
ECEN100 – Intro to Elect and Comp Engr (2)	ECEN150 – Electric Circuit Analysis I (3)
MATH112X* – Calculus I (4)	CSE110† – Introduction to Programming (2)
BYUI101 – Experience BYU-Idaho (1)	CSE111 – Programming with Functions (2)
ENG150 – Writing and Reasoning (3)	MATH215 – Multivariable Calculus (4)
GE Arts and Humanities (3)	PH121 – Principles of Physics I (3)
First Semester Total Credits: 15	Second Semester Total Credits: 14 or 16

* If you are not ready for Calculus, take MATH109 your first semester and then MATH112X your second semester.

† You may test out of CSE110 after completing ECEN 100. Otherwise, take both CSE110 & 111 this sem. (1st/2nd block)

Sophomore Year

Religion Cornerstone (2)	Religion Cornerstone (2)
ECEN240 – Fundamentals of Digital Systems (3)	ECEN250 – Electric Circuit Analysis II (3)
CSE210 – Programming with Classes (2)	ECEN260 – Microprocessor-Based Sys Design (3)
CHEM105 – General Chemistry (3)	ECEN299 – Elect Circuit Fab and Eval Lab (1)
CHEM105L – General Chemistry Lab (1)	CSE212 – Programming with Data Structures (2)
MATH316 – Diff Equations with Lin Algebra (4)	PH123 – Principles of Physics II (3)
Third Semester Total Credits: 15	Fourth Semester Total Credits: 14

Begin applying for internships during the Fall of your Sophomore year

Junior Year

Religion Elective (2)	Religion Elective (2)
ECEN340 – Digital System Design (3)	ECEN380 – Signals and Systems (3)
ECEN350 – Electronic Devices and Circuits (3)	ECEN390 – Electricity and Magnetism (3)
PH220 – Principles of Physics III (3)	MATH330 – Engineering Statistics (3)
Math and Science Elective (3)	General Electives (4)
Fifth Semester Total Credits: 14	Sixth Semester Total Credits: 15

off semester: ECEN398R Internship (1)

Senior Year

Religion Elective (2)	ECEN499 – Senior Project (3)
Supplemental Engineering Elective (3)	Supplemental Engineering Elective (3)
Supplemental Engineering Elective (3)	Supplemental Engineering Elective (3)
BUS301 – Advanced Writing (3)	General Elective (3)
GE Social Science (3)	General Elective (3)
General Elective (1)	Eighth Semester Total Credits: 15
Seventh Semester Total Credits: 15	

Consult the BYU-I catalog for official requirements.

See full course list on backside.

BYU IDAHO | Department of Computer Science and Engineering

B.S. Electrical Engineering

Course List

for those starting in 2026-2027

Core Electrical Engineering (EE) Courses

Complete all the following:

- ECEN100 – Intro to Electrical and Computer Engineering
- ECEN150 – Circuit Analysis I
- ECEN240 – Fundamentals of Digital Systems
- ECEN250 – Circuit Analysis II
- ECEN299 – Elect. Circuit Fabrication & Evaluation Lab
- ECEN260 – Microprocessor Based-System Design
- ECEN340 – Digital Systems Design
- ECEN350 – Electronic Devices and Circuits
- ECEN380 – Signals and Systems
- ECEN390 – Electromagnetics
- ECEN499 – Senior Project
- CSE110 – Intro to Prog. *(or test out after ECEN100)*
- CSE111 – Programming with Functions
- CSE210 – Programming with Classes
- CSE212 – Programming with Data Structures

General Education (GE) for ABET Majors

College Success:

- BYUI101 (recommended) or GE100/101/102/103/105

Religion:

- All four Religion Cornerstone: REL200C/225C/250C/275C
- Six more credits of Religion Electives

Writing:

- ENG150
- BUS301 (recommended) or ENG301

Breadth Courses:

- Choose one **Arts and Humanities** course**:**
  - Any Foreign Language Course, HUM110/201/202/214, ART101/201/202/231, ENG151/217, GECIV105, HIST201, MUSIC101/102, PHIL110, TA115/117
- Choose one **Social Science** course:
  - CHILD210, CIVIC150, ECON150/151, PSYCH111, SOC111 FAML160, GECIV100/210, GEINT212/213/215, PEACE101, HIST120/121/202, POLSC110/150/170

General Electives

You have up to 11 general elective credits to reach the 120 credits required for graduation. You may choose any course. Consider completing multiple *Emphasis Areas* (see column to the right.)

Required Math & Science

Complete all the following:

- MATH112X – Calculus
- MATH215 – Multivariable Calculus
- MATH316 – Differential Equations with Linear Algebra
- MATH330 – Engineering Statistics
- PH121 – Principles of Physics I
- PH123 – Principles of Physics II
- PH220 – Principles of Physics III
- CHEM105 – General Chemistry I
- CHEM105L – General Chemistry Lab I

Math & Science Electives

Complete 3 credits from the following:

- MATH341, MATH411, MATH423, PH250, CHEM106, CHEM106L, CSE280, GEOL111, GEOL111L, GEOL112, GEOL404, GEOL435, BIO180, BIO180L, BIO181, BIO181L, BIO221, BIO222, BIO240, BIO264, BIO264L

Supplemental Engineering Elective Choices

Take 4 of the following:

- CSE450 – Machine Learning
- ECEN311 – Intro to Elect Power & Rotating Machines
- ECEN324 – Computer Architecture
- ECEN351 – VLSI System Design
- ECEN361 – Embedded Systems
- ECEN411 – Power Systems Analysis
- ECEN420 – RF Circuits
- ECEN430 – Signal and Power Integrity
- ECEN451 – Semiconductor Device Engineering
- ECEN461 – Advanced Embedded Systems
- ECEN470 – Feedback Control of Dynamic Systems
- ECEN480 – Digital Signal Processing
- ECEN490R – Special Topics (often *F.E. Exam Prep*)
- ME310 – Mechatronics and Measurement Systems II
- ME410 – Autonomous Control of Dynamic Systems

Emphasis Areas (optional, but recommended)

It is recommended that you complete 1-2 emphasis areas as you select Supplemental Engineering Electives and General Electives.

	Power & Energy Systems	*Signals & R.F. Communications*	*Microelectronics & Semiconductors*	*Control Systems & Automation*
Supplemental and General Electives	ECEN 311 ECEN 411 ECEN 470	ECEN 420 ECEN 480 ECEN 430 or CYBER240	ECEN 351 ECEN 430 ECEN 451	ECEN 470 ME 310 ME 410
Core EE Courses	ECEN 350 ECEN 390	ECEN 380 ECEN 390	ECEN 340 ECEN 350	ECEN 340 ECEN 380

Minors

The Electrical Engineering degree does not require a minor. Rather, your elective credits are often best utilized by completing additional Emphasis Areas in the major. However, if you are careful with your selection of General Electives, Math & Science Electives, and Supplemental Engineering Elective courses, you may be able to complete one of these minors within the 120 credits of your degree:

A.I. Engineering Minor, Computer Science Minor, Math Minor, Statistics Minor, Physics Minor

Internship

Your internship is a temporary, semester-long engineering job that you apply for at a company while you are still a student. Electrical Engineering internships are usually paid positions. An internship will give you relevant work experience that you can add to your résumé to help you be more qualified for a job when you graduate.

Complete your internship during any semester *before* your last semester, but do not delay applying – you should begin applying for internships during the Fall of your Sophomore year. Your internship can be during an on-track *or* off-track semester. Because it is typically a full-time position, it is not intended that you take many, if any, other courses in the same semester.

Take ECEN 398R (1 credit - online) during your internship.

Alternative to the Internship

Take ECEN397 – Professional Career Preparation (1)

AND

take 2 more of the *Supplemental Engineering Electives* listed at the top of this column, instead of other general electives.

Consult the BYU-I catalog for official requirements.

See *Four-Year Plan* on frontside.