

Electrical Engineering, B.S.

DEPARTMENT

MS in Electrical and Computer Engineering, M.S.
BS in Electrical Engineering, B.S.
MN in Electrical Engineering, Minor
BS in Computer Engineering, B.S.
MN in Computer Engineering, Minor
MN in Cybersecurity, Minor

REQUIREMENTS

Department of Electrical and Computer Engineering

Bachelor of Science Degree Requirements

Electrical Engineering Major

1. Major requirements (71 units) and additional requirements (38-40 units)

Major core requirements (60 units)

ECE 1, 71, 72, 85, 85L, 90, 90L, 102, 103, 111, 118, 118L, 121, 124, 124L, 125, 126, 128, 128L, 134, 138, 138L, 155, 186A, 186B (57 units)

Select one from CE 29, ME 29, or ME 136 (3 units)

Technical Area Courses (11 units)

Select from the following: ECE 106, 107, 114, 115, 132, 135, 136, 140, 141, 141L, 144, 146, 148, 151, 152, 153, 162, 166, 168, 171, 176, 172, 173, 174, 178

Select at least two from the following: ECE 119L, 121L, 134L, 136L, 155L

Additional requirements (38-40 units)

BIOL 10 or 1A; CHEM 3A; ECON 40 or 50; MATH 75, 76, 77, 81; PHIL 1 or 10; PHYS 4A, 4B, 4BL; choose one from MATH 121, 123, 128, 152, 171, 181, 182 (3-4 units)

2. General Education requirements (49 units)*

Select one course from each of the G.E. areas: Area A1, A2, D1, F. (See G.E. listings.) The following courses are required to satisfy both G.E. and additional requirements: CHEM 3A [B1], BIOL 10 or 1A [B2], MATH 75 [B4], PHIL 1 or 10 [C2], ECON 40 or 50 [D2], ECE 186B [IB], ECE 118 [ID]. Note: Electrical Engineering Majors are exempt from G.E. Areas A3, C1, C1/C2, E1, and IC.

3. Other requirements (9 units)

American Government and Institutions (PLSI 2), Multicultural and International (MI), and Upper-division writing. Note: Electrical Engineering majors are exempt from the MI requirement.

4. Sufficient elective units to meet required total units (varies)

5. Total (124 units)

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in electrical engineering.
2. Electrical engineering majors might consider a math minor (see faculty advisor for details).
3. All electrical engineering students must consult with their academic advisor at least once each year.
4. The Upper-Division Writing Skills requirements can be met by passing the university examination or completing an upper-division writing course with a letter grade of C or better no sooner than the term in which 60 units of coursework are completed.
5. ENGR 101 may be taken instead of MATH 81.

6. The prerequisites for ECE 186A are ECE 102, 118, 124, 128, 128L; one lab from ECE 119L, 121L, 134L, 138L, 155L; and two courses from ECE 121, 134, 138, 155.
7. Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.
8. The following prerequisite courses must be completed with a letter grade of C or better: ECE 71, 72, 85, 85L, 90, 90L.
9. All prerequisites are enforced.

FACULTY

The faculty members possess depth and breadth in their specialty areas and are active in bringing these experiences and skills to the classroom. The identifiable strengths of the academic program are the laboratory and hands-on experience for students, the proper attention given to the scientific and mathematical foundation of electrical engineering and computer engineering, and the rigor of upper-division courses coupled with design and culminating senior projects. The technical and liberal arts components of the curriculum provide the students with the opportunity for gaining self-development, technical competence, and awareness of economic and ethical responsibilities. The technical curriculum includes (1) basic engineering science, (2) core electrical and computer engineering subjects, and (3) a junior-/senior-level choice for more depth in communications and analog systems, power systems and controls, or digital systems and computers.

The department requires mandatory advising to help students make sound academic decisions.

For faculty phone numbers and e-mail, see the campus directory.

For more on the faculty, see the faculty pages.

The faculty pages are updated by the department or program.