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, ECE 71, ECE 72, ECE 85, ECE 85L, ECE 90, ECE 90L, ECE 102, ECE 103E, ECE 111, ECE 118, ECE 118L, ECE 121, ECE 124, ECE 124L, ECE 125, ECE 126, ECE 128, ECE 128L, ECE 134, ECE 138, ECE 138L, ECE 155, ECE 186A, ECE 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, ECE 107, ECE 114, ECE 115, ECE 132, ECE 135, ECE 136, ECE 140, ECE 141, ECE 141L, ECE 144, ECE 146, ECE 148, ECE 151, ECE 152, ECE 153, ECE 162, ECE 166, ECE 168, ECE 171, ECE 176, ECE 172, ECE 173, ECE 174, ECE 178

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

   Additional requirements (38-40 units)
   BIOL 10 or BIOL 1A, CHEM 3A, ECON 40 or ECON 50, MATH 75, MATH 76, MATH 77, MATH 81, PHIL 1 or PHIL 10, PHYS 4A, PHYS 4B, PHYS 4BL; choose one from MATH 121, MATH 123, MATH 128, MATH 152, MATH 171, MATH 181, MATH 182 (3-4 units)

2. General Education requirements (48 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 BIOL 1A [B2], MATH 75 [B4], PHIL 1 or PHIL 10 [C2], ECON 40 or ECON 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. ENGR 101 may be taken instead of MATH 81.
5. 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.
6. Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.
7. The following prerequisite courses must be completed with a letter grade of C or better: ECE 71, 72, 85, 85L, 90, 90L.
8. 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.