Computer 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

Computer Engineering Major

1. Major requirements (73-74 units) and additional requirements (35-36 units)

   **Major core requirements (61-62 units)**
   - ECE 1, 71 or CSCI 40, CSCI 41, ECE 72, 85, 85L, 90, 90L, 103, 106, 118, 118L, 124, 125, 128, 128L, 141, 141L, 144, 146, 174, 176, 178, 186A, 186B
   - Technical Area (12 units)
   - Select at least 12 units from the following: ECE 107, 114, 115, 119L, 122L, 132, 134, 134L, 135, 138, 138L, 140, 148, 150, 155, 156, 172, 173; CSCI 150, 152, 164, 166, 172

   **Additional requirements (35-36 units)**
   - BIOL 10 or 1A; CHEM 3A; ECON 40 or 50; MATH 75, 76, 77, 81 (or ENGR 101); PHIL 1 or 10; PHYS 4A, 4B, 4BL (see advising notes)

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 satisfy both G.E. and major 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: Computer 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: Computer Engineering majors are exempt from the MI requirement.

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

5. Total (123 units)

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in computer engineering.
2. Computer engineering majors might consider a math minor. (See faculty advisor for details.)
3. All computer 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 124, 128, 128L, 141L, 146, 176 and one course taken concurrently from ECE 174 or 178.
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 72, 71, 85, 85L, 90, 90L.
9. A maximum of 6 units CSCI courses may be selected as technical area elective (see major requirements).
10. Prerequisites: 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.