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, ECE 71 or CSCI 40, CSCI 41, ECE 72, ECE 85, ECE 85L, ECE 90, ECE 90L, ECE 103, ECE 106, ECE 118, ECE
   118L, ECE 124, ECE 125, ECE 128, ECE 128L, ECE 141, ECE 141L, ECE 144, ECE 146, ECE 174, ECE 176, ECE 178,
   ECE 186A, ECE 186B
   Technical Area (12 units)
   Select at least 12 units from the following: ECE 107, ECE 114, ECE 115, ECE 119L, ECE 122LE, ECE 126, ECE 132,
   ECE 134, ECE 134L, ECE 135, ECE 138, ECE 138L, ECE 140, ECE 148, ECE 150, ECE 155, ECE 156, ECE 172, ECE 173,
   CSCI 150, CSCI 152E, CSCI 164, CSCI 166, CSCI 172

   Additional requirements (33-36 units)
   BIOL 10 or BIOL 1A, CHEM 3A, ECON 40 or ECON 50, MATH 75, MATH 76, MATH 77, MATH 81 (or ENGR 101), PHIL
   1 or PHIL 10, PHYS 4A, PHYS 4B, PHYS 4BL (see advising notes)

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 satisfy both G.E. and major 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: 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. ENGR 101 may be taken instead of MATH 81.
5. The prerequisites for ECE 186A are ECE 124, 128, 128L, 141L, 146, 176 and one course taken concurrently from ECE
   174 or 178.
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 72, 71, 85, 85L, 90, 90L.
8. A maximum of 6 units CSCI courses may be selected as technical area elective (see major requirements).
9. 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.