

Electrical and Computer Engineering, M.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

Master of Science Degree Requirements in Electrical and Computer Engineering

The Master of Science in ECE program has the following goals: (1) to develop the students' advanced analytical skills by developing an in-depth understanding of major theoretical and practical engineering concepts; (2) to develop students' written and oral communication skills applied to technical areas; (3) to achieve an appropriate level of competence by the students in solving practical electrical or computer engineering problems; (4) to develop students' critical and creative thinking skills in mastering new topics required to understand and solve complex engineering problems; and (5) to allow the students to demonstrate a sufficient depth of knowledge in a substantive area of electrical or computer engineering to pursue advanced academic or industrial work.

Program Objectives

The program has the following objectives: (1) to complete a minimum of 30 units of graduate coursework, (2) to successfully demonstrate knowledge base in culminating experience, and (3) to enhance the students' career goals by increasing their theoretical, research, and problem-solving skills in applied engineering.

Program Requirements

Fundamental courses (12 units): ENGR 200, ENGR 201; and select 9 units from: ECE 224, ECE 231, ECE 241, ECE 245, ECE 240, ECE 242, ECE 253, ECE 274, ECE 278

Choose from the following (12 - 18 units)

- Up to six units may be taken from ECE 100-level courses which are not required for a BS degree in the ECE department
- Up to six units of 200-level courses in program related subjects (Business, Engineering, Mathematics, Physics, and Computer Science) may be taken with the graduate coordinator's approval.
- 200-level ECE courses (Course prerequisites must have been completed before enrolling in the course).

Culminating Experience (0 - 6 units)

Select one: Thesis - ECE 299 (6), Project - ECE 298 (3), or Comprehensive Exam (0)

University and Program Admission

Requirements for admission to California State University, Fresno are in accordance with Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations. Admission to Fresno State follows the requirements for admission in accordance with Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.

Students who apply to the program are placed in one of the following categories:

- Graduate Standing, Classified.** Students with (a) an undergraduate degree in electrical or computer engineering discipline from a recognized program, (b) a good academic record and undergraduate grade point average of 3.0, (c) a minimum GRE quantitative score of 150 (d) a letter of recommendation from an academic or an industrial source.
- Graduate Standing, Conditionally Classified.** Electrical and computer engineering students with 2.5 GPA from ABET accredited or students with a degree in physical science or mathematics or a different engineering discipline, and who have not met the requirements of category 1, will be given conditionally classified graduate standing. These students may be required to take prerequisite courses and/or achieve a certain GPA as determined by the graduate program at the time of admission. Upon satisfactorily meeting all specified requirements, students will then be advanced to classified standing.

Degree Candidacy

The following requirements must be met prior to advancement to candidacy: (1) Classified graduate standing, (2) Completion of at least 10 units of the degree program with a 3.0 average GPA on completed courses listed on the application for advancement candidacy, (3) Departmental recommendation for advancement to candidacy, and (4) Satisfactory completion of Graduate Writing Skills Requirement (ENGR 200).

Non-degree students with a bachelor's degree may take graduate courses (concurrent with regular students) for credit or audit. Prior approval is required.

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.