

Electrical Engineering, M.S.

The Master of Science in Electrical Engineering (MSEE) offers an opportunity for engineers and others to advance their competency in analysis and design to better meet the high technology needs of local industry. Each student takes five required courses, and three or five elective courses depending on the culminating experience. Some current examples of areas of emphasis are Communications/DSP/Machine Learning, Electronics and Digital Systems, Power and Control Systems, Biomedical Engineering. Students will choose one of the two alternatives: thesis or comprehensive exam. Successful completion of a thesis provides a unifying culmination to the program and an enhanced resume for future industrial or academic endeavor. A limited number of laboratory and teaching assistantships are available to qualified graduate students.

Prerequisites

1. A bachelor's degree from an accredited program in electrical engineering or a bachelor's degree from an accredited engineering, natural science or other appropriate program with the requirement that essential undergraduate deficiencies in electrical engineering are removed prior to Advancement to Candidacy.
2. The student should apply online at Cal State Apply. Do not send an application to the Department. International students should apply online at Cal State Apply or through the Center for International Education.

To be considered for admission the prospective graduate student must have attained a GPA of at least 2.8 for the last 60 semester units (90 quarter units) attempted prior to entry in the MSEE program.

(Please note, the GRE is no longer required of applicants and has been removed from this list. 8/25/22)

Requirements

Complete 30 unit minimum in 400-, 500-, or 600-level courses (i.e., 15 unit core courses, and additional 15 unit as approved in advance by the graduate advisor).

The five core courses include:

- [E E 508 - Probability Theory and Random Processes](#) (3 units)
- [E E 511 - Linear Systems Analysis](#) (3 units)
- [E E 531 - CMOS Electronics](#) (3 units)
- [E E 554 - Power Systems Applications](#) (3 units)
- [E E 588 - DSP for MIMO Communication Systems](#) (3 units)

Select one of the following alternatives:

1. Thesis Alternative:
 - Five core courses (15 units);
 - [E E 698](#) Thesis or Industrial Project (6);
 - 400/500/600-level courses in EE as elective courses (9 units), excluding [E E 405](#) (Special Topics) and [E E 490](#) (Special Problems);
 - A maximum of two 400 level EE elective courses are accepted toward MSEE degree.
 - Comprehensive Oral Exam on Thesis.

2. Comprehensive Exam Alternative:
 - Five core courses (15 units);
 - 400/500/600-level EE courses as elective courses (15 units), excluding [E E 405](#) (Special Topics) and [E E 490](#) (Special Problems);
 - A maximum of two 400 level EE elective courses are accepted toward MSEE degree.
 - Comprehensive Written Exam.

Program Plan

Upon matriculation graduate students must consult with the graduate advisor and a tentative academic plan must be approved by the advisor by a few weeks into the first semester. The program must contain five required/ core courses for all emphases of the MSEE program. Students should obtain the MSEE Handbook, which covers the procedures and requirements, from the advisor or Electrical Engineering Department office or Electrical Engineering website.

Advancement to Candidacy

At least one semester before the graduating semester students must advance to candidacy. To apply for advancement to candidacy students must satisfy the following requirements:

1. All deficiencies must have been completed with a GPA of at least 3.0.
2. Currently enrolled in a regular session.
3. Completion of at least 9 units as a graduate student in residence while maintaining both an overall GPA and a program GPA of at least 3.0. Students are advised to seek advancement after completing 9 units in the program.