

2011-13 Cal Poly Catalog**Electrical Engineering Department****MS ELECTRICAL ENGINEERING****General Characteristics**

The Master of Science program in Electrical Engineering has the following objectives:

- Job-entry education for the more complex areas of engineering, such as research and development, innovative design, systems analysis and design, and managerial engineering;
- Updating and upgrading opportunities for practicing engineers;
- Graduate preparation for further study in engineering, leading to the Doctor of Engineering or Ph.D. degree;
- A base which allows graduates to maintain currency in their fields.

Prerequisites

For admission as a classified graduate student, an applicant must hold a bachelor's degree in engineering or a closely related physical science with a minimum grade point average of 3.0 in the last 90 quarter units (60 semester units) attempted. Applicants for graduate engineering programs are required to submit satisfactory scores for the General (Aptitude) Test of the Graduate Record Examination. Foreign applicants must have satisfactory scores on the TOEFL and TWE exams. An applicant who meets these standards but lacks prerequisite coursework may be admitted as a conditionally classified student and must make up any deficiencies before advancement to classified graduate standing.

Information pertaining to specific requirements for admission to graduate standing (classified or conditionally classified) may be obtained from the Graduate Coordinator, Electrical Engineering Department.

Program of Study

Graduate students in this program must file a formal study plan with their advisor, department, college and university graduate studies office by no later than the end of the second quarter in the program. The formal program of study must include a minimum of 45 units (at least 28 of which must be at the 500 level and the remainder at the 400 level).

The broad curriculum requirements for the MS in Electrical Engineering are:

- a) core of 16 units;
- b) a minimum of 12 units of additional electrical engineering courses;
- c) at least 17 units of approved electives;
- d) at least 28 units of the 45 unit program at the 500 level.

Two program options are available for MS in Electrical Engineering students: a thesis program which requires coursework, a thesis and oral defense of thesis; *or* a nonthesis option which involves additional coursework and

a comprehensive examination. The thesis option is strongly encouraged for all students.

Curriculum for MS Electrical Engineering

	<i>Units</i>
Core Courses	16
EE 525 Stochastic Processes for Engineers (4)	
EE 563 Graduate Seminar (1) (1) (1)	
EE 599 Design Project (Thesis) (1-9) units of major field graduate level courses <i>and</i> a comprehensive written examination	
Additional Electrical Engineering Graduate Courses	12
<i>To be selected from the following list: Not all courses listed are offered each academic year. Consult the EE Department for current information on course offerings</i>	
EE 502 Microwave Engineering (4)	
EE 511 Electric Machines Theory (4)	
EE 513 Control Systems Theory (4)	
EE 514 Advanced Topics in Automatic Control (4)	
EE 515 Discrete Time Filters (4)	
EE 517 Information Theory (4)	
EE 518 Power System Protection (4)	
EE 519 Advanced Analysis of Power Systems (4)	
EE 520 Solar-Photovoltaic Systems Design (4)	
EE 521 Computer Systems (4)	
EE 522 Microproc-Based Digital Sys Design (4)	
EE 523 Digital Systems Design (4)	
EE 524 Solid State Electronics (3)	
EE 526 Digital Communications (4)	
EE 527 Advanced Topics in Power Electronics (4)	
EE 528 Digital Image Processing (4)	
EE 529 Microwave Device Electronics (3)	
EE 530 Fourier Optics (4)	
EE 533 Antennas (4)	
EE 541 Advanced Microwave Laboratory (2)	
EE 544 Solid-State Electronics Laboratory (1)	
Approved Technical Electives (400-500 level)	17
May be selected from the course list above and other advisor approved technical electives.	