GRADUATE STUDY IN ELECTRICAL ENGINEERING
CALIFORNIA STATE UNIVERSITY, LOS ANGELES
(Effective Spring 2020)

The Master of Science degree in Electrical Engineering at California State University, Los Angeles, is designed for engineers who wish to prepare for advancement in their profession, whether in management research and development, sales, manufacturing, construction, consulting, teaching, or any of the expanding number of fields requiring highly educated electrical engineers.

The graduate program in Electrical Engineering at Cal State L.A. is organized to accommodate the need of engineers employed full time as well as those interested in accelerating their programs by attending full time. Courses are scheduled both during the day and at hours to suit the needs of those working in the profession.

Instruction is offered on a semester based system. Each of the two semesters that comprise the academic year (fall and spring) is 16 weeks in duration.

The university is located at the eastern edge of Los Angeles and adjacent to the western San Gabriel Valley. The convenient location ensures easy access by freeway and major surface streets, as well as by bus & metro-line from all parts of the Greater Los Angeles metropolitan area.

Admission to the Graduate Program

Applicants to the program must have a Bachelor of Science degree in Electrical Engineering (from an accredited college or university) with a minimum 2.50 grade point average (A = 4.0) in the last 60 semester units attempted in the undergraduate program.

Applicants with a Bachelor of Science degree in an allied field (e.g. Computer Science, Physics, Mathematics) may be admitted to conditionally classified graduate standing until prescribed prerequisites have been successfully completed. The GRE is not required for entering the program.

The Writing Proficiency Examination requirement is determined by Admissions office upon evaluation of the student's undergraduate degree.

Degree Requirements

A total of 30 semester units is required, including at least 18 units of 5000 level courses. A minimum of a B, 3.0 grade point average is required. Completion of the program requires the writing of an acceptable thesis or successful completion of a comprehensive examination.

FOR FURTHER INFORMATION

Further information about the program in Electrical Engineering may be obtained at:
http://www.calstatela.edu/ecst/ece, or by calling (323) 343-4470.
Admission information and application forms may be obtained at: https://www2.calstate.edu/Apply.
MSEE handbook at: http://www.calstatela.edu/sites/default/files/users/u24006/msee_handbook_7-22-2018_0.pdf

AREAS OF INSTRUCTION AND RESEARCH

Illustrative of the areas from which students select courses that will prepare them for their area of special interest are the following blocks of Engineering courses for graduate students. Unit values are indicated in parenthesis.

COMMUNICATION SYSTEMS	BIOMEDICAL ENGINEERING
EE 4200 Digital Communication Systems (3) *prereq: EE 3200, EE 3040*	EE 4200 Digital Communication Systems (3) *prereq: EE 3200, EE 3040*
EE 4210 Coding for Communications (3) *prereq: EE 3200*	EE 4220 Digital Signal Processing (3) *prereq: EE 3200*
EE 4220 Digital Signal Processing (3) *prereq: EE 3200*	EE 4229 Digital Signal Processing Lab (1) *prereq: EE 3020, coreq EE 4220*
EE 4229 Digital Signal Processing Lab (1) *prereq: EE 3020, coreq EE 4220*	EE 4250 Digital Image Processing (3) *prereq: EE 3200*
EE 4230 Antennas (3) *coreq: EE 3050*	EE 4600 Control Systems II (3) *prereq: EE 3600*
EE 4240 Fiber Optics (3) *prereq: EE 3200*	EE 4630 Machine Learning Principles and Applications (3) *prereq: EE 3020, EE 3040*
EE 4250 Digital Image Processing (3) *prereq: EE 3200*	EE 4710 Analog Integrated Circuits (3) *prereq: EE 3700*
EE 4400 Data Communications & Networking (3) *prereq: EE 3200*	EE 4720 CMOS VLSI Design (3) *prereq; EE 3720*
EE 4630 Machine Learning Principles and Applications (3) *prereq: EE 3020, EE 3040*	EE 4810 Biomedical Devices (3) *prereq: EE 2040*
EE 5200 Advanced Digital Communications I (3) *prereq: EE 3040, EE 4200*	EE 4820 Biomedical Signal Processing (3) *prereq: EE 3020*
EE 5210 Advanced Digital Communications II (3) *prereq: EE 5200*	EE 5130 System Analysis and Design (3) *prereq: EE 4130*
EE 5220 Principles of Signal Compression (3) *prereq: EE 3040, EE 4200*	EE 5200 Advanced Digital Communications I (3) *prereq: EE 3040, EE 4200*
EE 5230 Wireless Communications (3) *prereq: EE 5200, coreq: EE 5210*	EE 5220 Principles of Signal Compression (3) *prereq: EE 3040, EE 4200*
EE 5240 Computer Aided Design of Communication Sys (3) *prereq: EE 5200, EE 5210*	EE 5610 Stochastic Systems and Estimation (3) *prereq: EE 3040, EE 3600*
EE 5250 Optical Communications (3) *prereq: EE 5200, EE 5210*	EE 5630 Optimal Control Theory (3) *prereq: EE 4620*
EE 5410 Mobile Ad Hoc Networks (3) *prereq: EE 4400*	EE 5820 Neural Computation (3) *prereq: EE 3040, EE 4820*
COMPUTER ENGINEERING	POWER SYSTEMS
EE 4400 Data Communications & Networking (3) *prereq: EE 3200*	EE 4300 Intro to Power Systems Engineering (3) *prereq: EE 3300*
EE 4420 Multimedia Networking (3) *prereq: EE 4400*	EE 4310 Power System Analysis (3) *prereq: EE 4300*
EE 4440 Computer Organization (3) *prereq: EE 3450*	EE 4320 Electric Power Distribution (3) *coreq: EE 4300*
EE 4450 Embedded Architectures (3) *prereq: EE 3450*	EE 4330 Power Electronics (3) *prereq: EE 3700*
EE 4480 Advanced Digital Design (3) *prereq or coreq: EE 4440*	EE 4340 Electromagnetic Energy Conversion (3) *prereq: EE 3300*
EE 4630 Machine Learning Principles and Applications (3) *prereq: EE 3020, EE 3040*	EE 5320 Vehicle Electrification (3) *prereq: EE 3300, EE 3700*
EE 5400 Advanced Computer Networks (3) *prereq: EE 4400*	EE 5330 Computer Method in Power Systems (3) *prereq: EE 3020, EE 4310*
EE 5410 Mobile Ad Hoc Networks (3) *prereq: EE 4400*	EE 5340 Power System Stability (3) *prereq: EE 4310*
EE 5440 Computer System Architecture (3) *prereq: EE 4440*	EE 5350 Power System Protection (3) *prereq: EE 4310*
EE 5450 Advanced Topics in Embedded Systems (3) *prereq: EE 4450*	EE 5360 Renewable Energy (3) *prereq: EE 4310*
EE 5480 Advanced Topics in Computer Architectures(3) *prereq: EE 5440*	EE 5370 Faulted Power Systems (3) *prereq: EE 4310*
SYSTEMS ENGINEERING	ADDITIONAL COURSES
EE 4130 Systems Engineering (3) *prereq: EE 3600*	EE 4540 Special Topics in EE (1-3) *prereq: graduate standing*
EE 5130 System Analysis and Design (3) *prereq: EE 4130*	EE 4730 Optoelectronics (3) *prereq: EE 3700*
EE 5140 Systems Risk Analysis (3) *prereq: EE 4130*	EE 4990 Undergraduate Directed Study (1-3) *prereq: Dept permit*
EE 5150 Systems Performance Analysis (3) *prereq: EE 4130*	EE 5540 Special Topics in EE (3) *prereq: graduate standing*
EE 5160 Systems Architecture (3) *prereq: EE 4130*	EE 5960 Comprehensive Exam (-0-) *prereq: Dept permit*
	EE 5970 Graduate Research (1-3) *prereq: Dept permit*
CONTROL SYSTEMS	EE 5980 Graduate Directed Study (1-3) *prereq: Dept permit*
EE 4600 Control Systems II (3) *prereq: EE 3600*	EE 5990 Thesis (3) *prereq: Dept permit*
EE 4610 Digital Control Systems (3) *prereq: EE 3600*	
EE 4620 Modern Control Systems (3) *prereq: EE 3020*	
EE 4689 Control Systems Lab (1) *coreq: EE 3600*	
EE 5600 Linear Systems Analysis (3) *prereq: EE 4620*	
EE 5610 Stochastic Systems and Estimation (3) *prereq: EE 3040, EE 3600*	
EE 5630 Optimal Control Theory (3) *prereq: EE 4620*	
EE 5640 Nonlinear Control Systems (3) *prereq: EE 4620 or EE 5600*	