

M.S. in Electrical Engineering

Program Director

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The Master of Science in Electrical Engineering program at St. Mary's University prepares students for rewarding careers in the field of electrical and electronics engineering. Graduates acquire a strong background in theoretical and applied principles of analysis, design, and implementation of electrical, electronics, and computer-controlled systems. The Electrical Engineering program offers a variety of courses with focus in the following areas: control systems, communication, signal and image processing. The Electrical Engineering program at St. Mary's University provides students with flexible curriculum that integrates new developments in the field of electrical and electronics engineering. The basic program in Electrical Engineering is accredited by the Accreditation Board for Engineering and Technology (ABET).

Prerequisites

Code	Title	Semester Hours
Courses		
EG 2141	Logic Design Laboratory	1
EG 2152	Circuit Analysis Laboratory	1
EG 2341	Fundamentals of Logic Design	3
EG 2352	Circuit Analysis I	3
EG 2353	Circuit Analysis II	3
EG 3372	Signals and Systems	3
MT 2412	Calculus I	4
MT 2413	Calculus II	4

Degree Requirements

Non-Thesis/Project Option

Code	Title	Semester Hours
Engineering Courses Required		
EG 6308	Random Variables and Stochastic Processes	3
EG 6350	Digital Signal Processing I	3
EG 6365	Automatic Control Systems	3
EG 6367	Communication Systems	3
EG 8396	Capstone Project	3
Engineering Electives		
Select 15 credit hours from the following:		15
EG 6311	Wireless Communications	
EG 6312	Data Mining	
EG 6328	Software Engineering	
EG 6335	Wireless Security	
EG 6338	Special Topics	
EG 6345	Digital Control Systems	
EG 6356	Computer Networking	
EG 6359	Optical Communications	
EG 6360	Digital Signal Processing II	
EG 6362	Computer Vision and Pattern Recognition	
EG 6369	Cryptography Principles and Practices	
EG 6370	Parallel Processing	
EG 6374	Computer Architecture	
EG 6376	Neural Networks	
EG 6378	Microprocessors	

EG 6380	Microcomputer Interfacing	
EG 6386	Engineering Problem Solving	
EG 6388	Data Acquisition, Presentation, and Analysis	
EG 6390	Digital Systems Design Using VHDL	
EG 6392	Network Programming	
EG 6397	Fault Tolerant Computing	
EG 7155	Internship	
EG 7255	Internship	
EG 7355	Internship	
Total Semester Hours		30

Thesis Option

Code	Title	Semester Hours
Engineering Courses Required		
EG 6308	Random Variables and Stochastic Processes	3
EG 6350	Digital Signal Processing I	3
EG 6365	Automatic Control Systems	3
EG 6367	Communication Systems	3
EG 8390	Thesis I	3
EG 8391	Thesis II	3
Engineering Electives		
Select 12 credit hours from the following:		12
EG 6311	Wireless Communications	
EG 6312	Data Mining	
EG 6328	Software Engineering	
EG 6335	Wireless Security	
EG 6338	Special Topics	
EG 6345	Digital Control Systems	
EG 6356	Computer Networking	
EG 6359	Optical Communications	
EG 6360	Digital Signal Processing II	
EG 6362	Computer Vision and Pattern Recognition	
EG 6369	Cryptography Principles and Practices	
EG 6370	Parallel Processing	
EG 6374	Computer Architecture	
EG 6376	Neural Networks	
EG 6378	Microprocessors	
EG 6380	Microcomputer Interfacing	
EG 6386	Engineering Problem Solving	
EG 6388	Data Acquisition, Presentation, and Analysis	
EG 6390	Digital Systems Design Using VHDL	
EG 6392	Network Programming	
EG 6397	Fault Tolerant Computing	
EG 7155	Internship	
EG 7255	Internship	
EG 7355	Internship	
Total Semester Hours		30