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.

Admission Requirements

- Applicants must have a Bachelor of Science degree in engineering or a closely related discipline such as physics or mathematics. The graduate program director will evaluate applicants from other disciplines on an individual basis.
- Have a minimum Grade Point Average (GPA) of 3.00 (A = 4.00) for their bachelor's degree.
- We do not require GRE scores from the applicants.
- International students must submit TOEFL, IELTS, or Duolingo scores. Students who do not meet minimum language proficiency requirements may apply to the St. Mary's Intensive English Program (IEP) and be considered for admission upon successful completion of the IEP. See below for the score requirements for each test.
- Submit a completed application form, a resume, a written statement of purpose indicating the applicant's interests and objectives, two letters of recommendation concerning the applicant's potential for succeeding in the graduate program, and official transcripts of all college level work.

Applicants who fail to meet any of the above requirements may be admitted on a conditional status. The Graduate Program Director will evaluate these cases on an individual basis.

International Students

- International students must submit the TOEFL scores and show a minimum of 80 in the Internet-based test or 213 in the computer-based test or 550 in the paper-based test.
- As an alternative to the TOEFL, International Student can take the IELTS test and show a minimum score of 6.5 or better. A score of 6.0 is acceptable with the provision that the student takes EN6301 during the first semester at St. Mary's University. No student will be admitted with score lower than 6.0 in the IELTS test.
- A third option for an international student is a Duolingo English test score of 105 or above.

Prerequisites

Code	Title	Semester Hours
Courses		
EG 2141		
EG 2152		
EG 2341	Fundamentals of Logic Design	3
EG 2352		
EG 2353		
EG 3372		
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