M.S. in Computer Engineering

Program Director

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The Master of Science in Computer Engineering program focuses on the state-of-the-art advancement in the field of computer engineering. This program prepares students for highly sought after jobs in fields such as data mining, computer security, parallel programming, deep learning, computer networking, robotics, software design, advanced computer architectures, and digital systems design. Our graduates are employed by a variety of companies, including the following: Texas Instruments (TI), National Instruments (NI), Intel, Microsoft, IBM, Rackspace, USAA, Southwest Research Institute, Boeing, Accenture, and Samsung, to name a few. Some of our graduates went on to pursue their Ph.D. degrees at Stanford University, University of Texas at Austin, and Northwestern University etc. Career opportunities for graduates with Master of Science degrees in Computer Engineering are abundant.

What is computer engineering?

Computer engineers design and implement computer systems – both hardware and software. Computer engineering is a combination of electrical engineering (hardware) and computer science (software and systems), and computer engineers work on a wide range of interesting computing problems that have a huge impact on the society, including computer security, parallel programming, machine learning, and reliable software & hardware system design.

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.

Click on the course number to view course title and description.

Prerequisites

Code	Title	Semester Hours
Courses		
EG 2141		
EG 2152		
EG 2341	Fundamentals of Logic Design	3
EG 2352		
EG 1302		
EG 2342		
MT 2412	Calculus I	4

MT 2413	Calculus II	4
MT 3323	Discrete Math Structures	3

Degree Requirements

Non-Thesis/Project Option

Code	Title	Semester Hours
Engineering Courses Required		
EG 6328	Software Engineering	3
EG 6356	Computer Networking	3
EG 6370	Parallel Processing	3
EG 6374	Computer Architecture	3
EG 8396	Capstone Project	3
Engineering Electives		
Select 15 hours from the following:		15
EG 6306	Software Project Planning and Management	
EG 6312	Data Mining	
EG 6334	Software Quality Assurance	
EG 6335	Wireless Security	
EG 6338	Special Topics	
EG 6376	Neural Networks	
EG 6378	Microprocessors	
EG 6380	Microcomputer Interfacing	
EG 6390	Digital Systems Design Using VHDL	
EG 6392	Network Programming	
EG 6369	Cryptography Principles and Practices	
EG 6397	Fault Tolerant Computing	
EG 7304	Requirements Engineering	
EG 7314	Software Security	
EG 7155	Internship	
EG 7255	Internship	
EG 7355	Internship	
Total Semester Hours		**30**

Thesis Option

Code	Title	Semester Hours
Engineering Courses Required		
EG 6328	Software Engineering	3
EG 6356	Computer Networking	3
EG 6370	Parallel Processing	3
EG 6374	Computer Architecture	3
EG 8390	Thesis I	3
EG 8391	Thesis II	3
Engineering Electives		
Select 12 hours from the following:		12
EG 6306	Software Project Planning and Management	
EG 6312	Data Mining	
EG 6334	Software Quality Assurance	
EG 6335	Wireless Security	
EG 6338	Special Topics	
EG 6376	Neural Networks	

EG 6378	Microprocessors	
EG 6380	Microcomputer Interfacing	
EG 6390	Digital Systems Design Using VHDL	
EG 6392	Network Programming	
EG 6369	Cryptography Principles and Practices	
EG 6397	Fault Tolerant Computing	
EG 7304	Requirements Engineering	
EG 7314	Software Security	
EG 7155	Internship	
EG 7255	Internship	
EG 7355	Internship	
Total Semester Hours		**30**