

M.S. in Software Engineering - Online

Program Director

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What is Software Engineering?

Software Engineering deals with all aspects of software development to produce successful software. A good software engineer not only is proficient in coding but also understands the steps to produce software including designing a system architecture or eliciting requirements from customers or estimating the cost of a project.

Master of Science Degree in Software Engineering

Software engineering is one of the fastest growing fields in the United States. Employment of software developers is projected to grow 24 percent from 2016 to 2026.

The Software Engineering program at St. Mary's University is designed to give students a combined experience of classroom learning and hands-on engineering practice, creating software systems that are reliable, efficient and maintainable. The program focuses on both the technical and management skills that equips its graduates to be successful in the job market. It emphasizes the organizational structures, development processes, analysis and modeling techniques, design methodologies, documentation standards, and quality assurance.

The courses are taught by highly knowledgeable full-time and adjunct faculty with vast industry experience.

Our graduates are employed by a variety of companies, including the following: Intel, Microsoft, IBM, Rackspace, USAA, Southwest Research Institute, AT&T, Accenture, and Samsung.

ADMISSION REQUIREMENTS

Applicants must have a Bachelor of Science degree in engineering, computer science, or a closely related discipline such as physics or mathematics. The graduate program director will evaluate applicants from other disciplines on an individual basis. If the applicant has not taken the following courses or equivalent courses in their undergraduate program, they may be admitted with the provision they take the prerequisite courses at St. Mary's University or other institutions: Discrete Mathematics, Object Oriented Programming, and Data Structures and Algorithms.

Master of Science (M.S.) Admission Requirements

- Applicants must have a Bachelor of Science degree in engineering, computer science, or a closely related discipline such as physics or mathematics. The graduate program director will evaluate applicants from other disciplines on an individual basis. If the applicant has not taken the following courses or equivalent courses in their undergraduate program, they may be admitted with the provision that they take the prerequisite courses at St. Mary's University or other institutions: Discrete Mathematics, Object Oriented Programming, and Data Structures and Algorithms.
- Have a minimum Grade Point Average (GPA) of 3.00 (A = 4.00) for their bachelor's degree.
- Have a minimum GRE quantitative score of 148. GRE requirement would be waived for applicants with work experience or for applicants who have a graduate degree.
- International students must submit minimum TOEFL scores of 80 on the Internet-based test or at least 6.0 on the IELTS. Students who score 6.0 on the IELTS or 80-82 on the TOEFL will be required to enroll in EN6301 Academic Writing for International Students during the first semester of attendance.
- Submit a completed application form, 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.

Prerequisites

Applicants whose Bachelor of Science degree is not in Software Engineering, Computer Science, or Computer Engineering are required to demonstrate proficiency or take the following prerequisite courses:

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

Code	Title	Semester Hours
Courses		
EG 1305		3
EG 2342		3
MT 3323	Discrete Math Structures	3

Degree Requirements

Non-Thesis/Project Option

Code	Title	Semester Hours
Engineering Courses Required		
Select 27 hours from the following:		27
EG 6306	Software Project Planning and Management	
EG 6328	Software Engineering	
EG 6334	Software Quality Assurance	
EG 6370	Parallel Processing	
EG 7304	Requirements Engineering	
EG 7305	OO Analysis, and Design Methodologies	
EG 7308	Soft. Verification & Valid.	
EG 7310	Software Maintenance, Evolution and Reengineering	
EG 7311	User Interface Design	
EG 7312	Soft. Des & Architecture	
EG 7313	Web Engineering	
EG 7314	Software Security	
EG 7155	Internship	
EG 7255	Internship	
EG 7355	Internship	
EG 8396	Capstone Project	3
Total Semester Hours		30

Thesis Option

Code	Title	Semester Hours
Engineering Courses Required		
Select 24 hours from the following:		24
EG 6306	Software Project Planning and Management	
EG 6328	Software Engineering	
EG 6334	Software Quality Assurance	
EG 6370	Parallel Processing	
EG 7304	Requirements Engineering	
EG 7305	OO Analysis, and Design Methodologies	
EG 7308	Soft. Verification & Valid.	
EG 7310	Software Maintenance, Evolution and Reengineering	
EG 7311	User Interface Design	
EG 7312	Soft. Des & Architecture	
EG 7313	Web Engineering	
EG 7314	Software Security	
EG 7155	Internship	
EG 7255	Internship	
EG 7355	Internship	
EG 8390	Thesis I	3

EG 8391	Thesis II	3
Total Semester Hours		30