

# B.S. in Software Engineering

## 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.

## Bachelor's 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.

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

Code	Title	Semester Hours
<b>BS Software Engineering Degree Plan (128 hours)</b>		
<b>Core Requirements (41 hours)</b>		
First Year Seminar		3
FYE 1301	First Year Seminar	
Freshmen Composition I		3
EN 1311	Rhetoric and Composition	
or EN 1313	Rhetoric and Composition for International Students	
Literature		3
Any EN 23XX literature course		
History		3
Any 1000, 2000, or 3000-level HS course		
Social Science		6
EG 1303	Engineering and Society	
EG 2393	Engineering Economy	
Mathematics		4
MT 2412		
Natural or Physical Sciences		4
PY 1404		
Fine Arts		3
EG 1341	Graphics and Design	
Philosophy - Self		3
PL 1301	Introduction to Philosophy	
Philosophy - Ethics		3
PL 2301	Foundations of Ethics	
Theology - God		3
TH 1301	Introduction to Theology	
Intermediate Theology		3
Any TH 33xx course		
<b>Software Engineering Major Courses (78 hours)</b>		
EG 1113	C Programming for Engineering Lab	1
EG 1213	C Programming for Engineering	2
EG 1316	Object-Oriented Programming and Design	3
EG 2113	Logic Design Laboratory	1

EG 2312	Data Structures and Algorithms	3
EG 2313	Fundamentals of Logic Design	3
EG 3101	Engineering Design & Analysis Workshop I	1
EG 3102	Engineering Design & Analysis Workshop II	1
EG 3164	Human Computer Interaction Lab	1
EG 3264	Human Computer Interaction	2
EG 3313	Computer Organization and Architecture	3
EG 3360	Requirements Engineering	3
EG 3361	Software Project Management	3
EG 3362	Software Design and Architecture	3
EG 3365	Software Engineering	3
EG 4101	Eng. Design & Analysis Workshop III	1
EG 4301	Senior Design Project I	3
EG 4302	Senior Design Project II	3
EG 4316	Computer Networks	3
EG 4318	Parallel Programming	3
EG 4361	Software Quality Assurance and Testing	3
EG 4364	Software Maintenance and Evolution	3
MT 2318	Applied Linear Algebra	3
MT 2323	Discrete Math Structures	3
MT 2413	Calculus II	4
MT 4331	Probability Theory	3
PY 2404	University Physics II	4
PY 3307	Mechanics	3
<b>Software Engineering Electives (9 hours)</b>		
SET Mathematics or Science Elective I: Choose one from the following:		3
BL 1401	General Biology for Majors I	
CH 1401	General Chemistry I	
CH 1402	General Chemistry II	
CH 1404	Intro to Organic & Biochemistry	
ES 1303	Geology of Earth Resources	
MT 2317	Differential Equations	
MT 2414	Calculus III	
MT 3375	Theory of Interest	
MT 4332	Statistics	
PY 3301	Modern Physics	
PY 3308	Quantum Mechanics	
		6
EG Selected Electives for SE I & II: Choose two from the following:		6
EG 4352		
<b>Total Semester Hours</b>		<b>128</b>

*This is a recommended degree plan subject to changes. Please meet with your advisor on a regular basis.*

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

#### First Year

Fall	Semester Spring Hours	Semester Hours
EG 1113	1 EG 1316	3
EG 1213	2 MT 2413	4
EG 1303	3 PY 2404	4
EN 1311	3 FYE 1301	3
MT 2412	4 EG 1341	3

PY 1404	4	
	17	17
<b>Second Year</b>		
<b>Fall</b>	<b>Semester Spring Hours</b>	<b>Semester Hours</b>
SET MT or SCI Selected Elective I	3 PL 2301	3
EG 2113	1 TH 1301	3
EG 2313	3 MT 2318	3
MT 2323	3 PY 3307	3
PL 1301	3 EG 2312	3
History	3 Literature	3
	16	18
<b>Third Year</b>		
<b>Fall</b>	<b>Semester Spring Hours</b>	<b>Semester Hours</b>
CS 4320	3 EG 3102	1
EG 3101	1 EG 3362	3
EG 3313	3 EG 3164	1
EG 3361	3 EG 3264	2
MT 4331	3 EG 3360	3
EG 3365	3 Theology II	3
	EG 2393	3
	16	16
<b>Fourth Year</b>		
<b>Fall</b>	<b>Semester Spring Hours</b>	<b>Semester Hours</b>
CS 3350	3 EG 4302	3
EG 4101	1 EG 4316	3
EG 4301	3 EG 4318	3
EG Selected Elective for SE I	3 EG Selected Electives for SE II	3
EG 4361	3 EG 4362	3
	13	15
<b>Total Semester Hours 128</b>		