

# B.S. in Computer Engineering

## Computer Engineering

The Bachelor of Science degree program in Computer Engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org> (<http://www.abet.org>)

Computer Engineers are trained to solve problems in both computer hardware and software systems, from a laptop to an airplane, to make sure that they work properly.

Students in this program will specialize in learning computer programming, digital logic design, digital systems design, computer organization & architecture, computer networks, data structures & algorithms, parallel programming, software engineering, operating systems, data mining, and computer security. In addition, students gain extensive experience with the most advanced engineering tools including both computer hardware and software.

## Careers

The job opportunities for computer engineers are abundant. Computer engineers can work for the government or in industries such as telecommunications, computers, semiconductors, biomedical and aerospace, to name a few. Graduates of the Computer Engineering program at St. Mary's have been employed by companies of all sizes, including Texas Instruments, Intel, Microsoft, IBM, Rackspace, USAA, National Instruments, Southwest Research Institute, Boeing, Accenture, Samsung, and the University of Texas Health Science Center.

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

Code	Title	Semester Hours
<b>BS Computer Engineering Degree Plan (128 hours) - ABET Accredited</b>		
<b>Core Requirements (41 hours)</b>		
First Year Seminar		3
FYE 1301	First Year Seminar	
Freshmen Composition I		3
EN 1311 or EN 1313	Rhetoric and Composition 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 EG 2393	Engineering and Society Engineering Economy	
Mathematics		4
MT 2412	Calculus I	
Natural or Physical Sciences		4
PY 1404	University Physics I	
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>Computer Engineering Major Courses (87 hours)</b>		
<b>Mathematics/Natural or Physical Sciences Courses</b>		

SET Restricted Elective - Choose one from the following:		3
BL 1401, CH 1401, MT 2414, MT 3321, MT 3372, MT 3392, MT 4311, PY 3301, PY 2404		
PY 2404	University Physics II	4
MT 2317	Differential Equations	3
MT 2318	Applied Linear Algebra	3
MT 2323	Discrete Math Structures	3
MT 2413	Calculus II	4
MT 3303	Probability and Statistics for Engineers	3
<b>Engineering Core Courses</b>		
EG 1113	C Programming for Engineering Lab	1
EG 1213	C Programming for Engineering	2
EG 2121	Circuit Analysis Laboratory	1
EG 2321	Circuit Analysis I	3
EG 2343	Statics	3
EG 3101	Engineering Design & Analysis Workshop I	1
EG 3102	Engineering Design & Analysis Workshop II	1
EG 4101	Eng. Design & Analysis Workshop III	1
EG 4301	Senior Design Project I	3
EG 4302	Senior Design Project II	3
<b>Computer Engineering Courses</b>		
EG 1316	Object-Oriented Programming and Design	3
EG 2113	Logic Design Laboratory	1
EG 2313	Fundamentals of Logic Design	3
EG 2312	Data Structures and Algorithms	3
EG 2126	Electronics I Laboratory	1
EG 2326	Electronics	3
EG 2324	Circuits Analysis II	3
EG 3323	Microprocessors I	3
EG 3313	Computer Organization and Architecture	3
EG 3365	Software Engineering	3
EG 3324	Microprocessors II	3
EG 3112	Digital System Design Laboratory	1
EG 3312	Digital Systems Design	3
EG 4315	Cryptography Principles and Practices	3
EG 4316	Computer Networks *	3
EG 4318	Parallel Programming *	3
CS 3350	Operating Systems	3

<b>Total Semester Hours</b>	<b>128</b>
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\* Students in the Accelerated Graduate Degree Program can replace the course with the equivalent 63xx or 73xx course with approval from the Graduate Program Director

*This is a recommended degree plan subject to changes. Please meet with your adviser 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 FYE 1301	3
EG 1213	2 EG 1316	3
EG 1303	3 EG 1341	3
EN 1311	3 MT 2413	4
MT 2412	4 PY 2404	4

PY 1404	4	
	<b>17</b>	<b>17</b>
<b>Second Year</b>		
<b>Fall</b>	<b>Semester Spring Hours</b>	<b>Semester Hours</b>
EG 2393	3 EG 2312	3
EG 2321	3 EG 2326	3
EG 2121	1 EG 2126	1
EG 2313	3 EG 2324	3
EG 2113	1 MT 2318	3
MT 2317	3 PL 1301	3
MT 2323	3	
	<b>17</b>	<b>16</b>
<b>Third Year</b>		
<b>Fall</b>	<b>Semester Spring Hours</b>	<b>Semester Hours</b>
EG 3101	1 EG 3102	1
EG 3323	3 EG 3324	3
EG 3313	3 EG 3312	3
EG 3365	3 EG 3112	1
MT 3303	3 EG 2343	3
PL 2301	3 TH 1301	3
	<b>16</b>	<b>14</b>
<b>Fourth Year</b>		
<b>Fall</b>	<b>Semester Spring Hours</b>	<b>Semester Hours</b>
EG 4101	1 EG 4302	3
EG 4301	3 EG 4316	3
EG 4315	3 EG 4318	3
CS 3350	3 SET Restricted Elective	3
Literature	3 Any TH33xx course	3
History	3	
	<b>16</b>	<b>15</b>
<b>Total Semester Hours 128</b>		