

B.S. in Computer Engineering

About the Bachelor of Science in Computer Engineering

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.

Code	Title	Semester Hours
B.S. Computer Engineering		
St. Mary's University Core ¹		
SMC 1301	Foundations of Civilization	3
SMC 1311	Foundations of Reflection:Self	3
SMC 1312	Foundations of Reflection: Nature	3
SMC 1313	Foundations of Reflection: Others	3
SMC 1314	Foundations of Reflection: God	3
SMC 2301	Foundations of Practice: Ethics	3
SMC 2302	Foundations of Practice: Civic Engagement and Social Action	3
SMC 2303	Foundations of Practice:Fine Arts and Creative Process	3
SMC 2304	Foundations of Practice: Literature	3
EG 4363	Senior Design Project II ²	3
School of Science, Engineering, and Technology Specific Core		
Foreign Languages		0
Computer, Electrical, Industrial and Mechanical Engr. majors are exempt from the foreign language requirement		
Rhetoric and Composition ³		3
EN 1311	Rhetoric and Composition	3
Fine Arts		3
EG 1301	Engineering Graphics and Design	3
Social Science		3
EG 3334	Engineering Economy	3
Speech		3
EG 4362	Senior Design Project I	3
Theology		3
Select one of the following:		
Advanced Theology TH 33XX/43XX		
HU 3300	Perspectives and Themes in History, Philosophy and/or Theology	
BS Computer Engineering Major Courses ⁴		
CH 1401	General Chemistry I	4
CS 3340	Software Engineering	3
CS 3350	Operating Systems	3
EG 1101	Introduction to Engineering	1
EG 1302	Programming for Engineers	3
EG 1305	Object-Oriented Programming and Design	3

EG 2141	Logic Design Laboratory	1
EG 2152	Circuit Analysis Laboratory	1
EG 2181	Digital Systems Design Laboratory	1
EG 2307	Engineering Mechanics	3
EG 2341	Fundamentals of Logic Design	3
EG 2342	Data Structures & Algorithms	3
EG 2352	Circuit Analysis I	3
EG 2353	Circuit Analysis II	3
EG 2382	Digital Systems Design	3
EG 3156	Electronics I Lab	1
EG 3157	Electronics II Lab	1
EG 3356	Electronics I	3
EG 3357	Electronics II	3
EG 3363	Microprocessors I	3
EG 3364	Microprocessors II	3
EG 3374	Computer Organization & Architecture	3
EG 4356	Computer Networks	3
EG 4387	Parallel Programming	3
MT 2412	Calculus I	4
MT 2413	Calculus II	4
MT 3311	Differential Equations	3
MT 3323	Discrete Math Structures	3
MT 4331	Probability Theory	3
PY 1404	University Physics I	4
PY 2404	University Physics II	4

Proficiency in Information Technology and Information Literacy

For this major, this requirement will be fulfilled by passing coursework within the degree plan.

Total Semester Hours 131

- ¹ All St. Mary's Core SMC 13XX "Reflection" courses must be completed before registering for SMC 23XX "Practice" courses, unless authorized by student's adviser.
- ² EG 4363 fulfills SMC 4301 requirement.
- ³ Grade of "C" or better is required. International students may be required to take EN 1313 to fulfill this requirement.
- ⁴ Engineering students must make a grade of "C" or better in all engineering courses and their prerequisites. One exception applies to the graduating senior who may petition his/her adviser to allow one grade of "D". Students are not permitted to take an engineering, science, or mathematics course unless all prerequisites are passed with a grade of "C" or better.

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

First Year

Fall	Semester Spring Hours	Semester Hours
SMC 1301	3 SMC 1311	3
EN 1311	3 EG 1301	3
EG 1101	1 EG 1305	3
EG 1302	3 MT 2413	4
MT 2412	4 PY 2404	4
PY 1404	4	
ND 0101	0	
18		17

Second Year

Fall	Semester Spring Hours	Semester Hours
CH 1401	4 SMC 1312	3

EG 2141	1 SMC 1314	3
EG 2152	1 EG 3156	1
EG 2341	3 EG 2342	3
EG 2352	3 EG 2353	3
MT 3311	3 EG 3356	3
MT 3323	3	

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Third Year

Fall	Semester Spring Hours	Semester Hours
SMC 1313	3 SMC 2301	3
EG 2307	3 SMC 2302	3
EG 3157	1 CS 3340	3
EG 3357	3 EG 2181	1
EG 3363	3 EG 2382	3
EG 3374	3 EG 3364	3

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Fourth Year

Fall	Semester Spring Hours	Semester Hours
SMC 2303	3 EG 4363	3
SMC 2304	3 Advanced Theology	3
CS 3350	3 EG 3334	3
EG 4362	3 EG 4356	3
MT 4331	3 EG 4387	3

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Total Semester Hours 131