COMPUTER ENGINEERING - BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G and ENGL 1110G . The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year

Fall

		Credits
ENGR 190	Introduction to Engineering Mathematics	4
ENGL 1110G	Composition I	4
ENGR 130	Digital Logic	4
ENGR 140	Introduction to Programming and Embedded Systems	4
	Credits	**16**

Spring

MATH 1511G	Calculus and Analytic Geometry I [2]	4
COMM 1115G	Introduction to Communication [2]	3
ENGR 120	DC Circuit Analysis	4
C S 172	Computer Science I	4
	Credits	**15**

Second Year

Fall

MATH 1521G	Calculus and Analytic Geometry II	4
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	4
E E 200	Linear Algebra, Probability and Statistics Applications	4
C S 271	Object Oriented Programming	4
	Credits	**16**

Spring

PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	4
ENGL 2210G	Professional and Technical Communication Honors English Composition Level 2	3
C S 272	Introduction to Data Structures	4
C S 278	Discrete Mathematics for Computer Science	4
	Credits	**15**

Third Year

Fall

General Ed/VWW [2, 3]		3
General Ed/VWW [2, 3]		3
E E 362	Introduction to Computer Organization	4
C S 371	Software Development	4
E E 490	Selected Topics (Electronic Devices)	2
	Credits	**16**

Spring

General Ed/VWW [2, 3]		3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [2]	4

C S 343	Algorithm Design & Implementation	3
C S 370	Compilers and Automata Theory	4
E E 490	Selected Topics (Computer Engineering Cornerstone)	2
	Credits	**16**

Fourth Year

Fall

ENGR 401	Engineering Capstone I	3
E E 490	Selected Topics (Digital VLSI)	2
E E 462	Computer Systems Architecture	3
Comp Engineering Elective 1 [4]		3
C S 474	Operating Systems I	3
	Credits	**14**

Spring

ENGR 402	Engineering Capstone II	3
Comp Engineering Elective 2 [4]		3
Comp Engineering Elective 3 [4]		3
General Ed/VWW [2, 3]		3
General Ed/VWW [2, 3]		3
C S 419	Computing Ethics and Social Implications of Computing	1
	Credits	**16**
	Total Credits	**124**

[1] MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G Calculus and Analytic Geometry I first.

[2] See the General Education and Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.

[3] Depending on availability of specific courses in the fall or spring semester, students may need to reorganize the Comp Engineering Electives, STEM electives, and/or Gen Ed/VWW electives in their junior and senior year. Students are strongly advised to consult with their ECE Faculty Mentor for assistance in planning their final year.

[4] Computer Engineering Elective Courses:

- E E 412 ASIC Design, E E 409 Hardware & Software Codesign, E E 458 Hardware Security and Trust, E E 467 ARM SOC Design, E E 490 Selected Topics, E E 490 Applications of Parallel Computing XSEDE Collaborative Course, E E 465 Machine Learning I

- CHME 467 Nanoscience and Nanotechnology

- C S 478 Computer Security, C S 482 Database Management Systems I, C S 487 Applied Machine Learning IC S 491 Parallel ProgrammingC S 488 Introduction to Data MiningC S 471 Programming Language Structure IC S 475 Artificial Intelligence IC S 476 Computer Graphics IC S 383 Introduction to Deep LearningC S 384 Graph Data MiningC S 477 Digital Game DesignC S 481 Visual ProgrammingC S 485 Human-Centered ComputingC S 496 Cloud and Edge Computing