ELECTRICAL ENGINEERING (COMPUTERS AND MICROELECTRONICS) - BACHELOR OF SCIENCE IN ELECTRICAL 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
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
ENGR 120	DC Circuit Analysis	4
	Credits	**16**
Spring		
MATH 1511G	Calculus and Analytic Geometry I [1]	4
General Education Course [2]		3
ENGR 130	Digital Logic	4
ENGR 140	Introduction to Programming and Embedded Systems	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
ENGR 230	AC Circuit Analysis	4
	Credits	**16**
Spring		
MATH 3160	Introduction to Ordinary Differential Equations	3
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	4
General Education Course [2]		3
E E 240	Multivariate and Vector Calculus Applications	3
Choose one Programming course from the following:		3-4
CSCI 1240 or CSCI 4510	C++ Programming I or C++ Programming	
CSCI 1210 or CSCI 4505	Computer Programming Fundamentals or Java Programming	
CSCI 1720	Computer Science I	
CSCI 2210	Object-Oriented Programming	
	Credits	**16-17**

Third Year

Fall		
E E 300	Cornerstone Design	2
E E 320	Signals and Systems I	3
E E 340	Fields and Waves	4
General Education Course [2]		3
General Education Course [2]		3
	Credits	**15**
Spring		
E E 317	Semiconductor Devices and Electronics I	4
E E 325	Signals and Systems II	4
E E 362	Introduction to Computer Organization	4
General Education Course [2]		3
	Credits	**15**

Fourth Year

Fall		
ENGR 401	Engineering Capstone I	3
E E 462 or E E 562	Computer Systems Architecture [3] or Computer Systems Architecture	3
E E 480 or E E 510	Introduction to Analog and Digital VLSI [3] or Introduction to Analog and Digital VLSI	3
STEM Elective [4,5]		3
STEM Elective [4,5]		3
	Credits	**15**
Spring		
ENGR 402	Engineering Capstone II	3
Computers & Microelectronics Elective [5,6]		3-4
Computers & Microelectronics Elective [5,6]		3
STEM Elective [4,5]		3
STEM Elective [4,5]		3
	Credits	**15-16**
	Total Credits	**123-125**

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 (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.
3. Students must take both (E E 462 Computer Systems Architecture or E E 562 Computer Systems Architecture) and (E E 480 Introduction to Analog and Digital VLSI or E E 510 Introduction to Analog and Digital VLSI), both of which are currently offered in the Fall semester.
4. STEM Elective: Course at the 300/3000 level or above from E E that is not used to satisfy any other E E program requirement or courses at the 300/3000 level or above from A E, C E, CHME, I E, M E, ASTR, BIOL, CHEM, CSCI, MATH, PHYS and STAT. Excluded courses include VWW courses and those which are substantially equivalent to an E E course. Click to view a list of excluded STEM Electives (https://ece.nmsu.edu/undergrad-study/BSEE-STEM-electives.html).
5. Depending on availability of specific courses in the fall or spring semester, students may need to reorganize the ECE Electives, STEM electives, and/or Gen Ed electives in their final year. Students are strongly advised to consult with their ECE Faculty Mentor for assistance in planning their final year.
6. One Computers & Microelectronics Elective Course must be from the E E Prefix. See E E Concentration Electives in the Degree Requirements section above.