ELECTRICAL ENGINEERING - BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I . 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	4
General Education Requirement (Area I, IV, V, VI or VWW) [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 Requirement (Area I, IV, V, VI or VWW) [2]		3
Choose one Programming course from the following:		3-4
C S 151 or C S 451	C++ Programming or C++ Programming	
C S 152 or C S 452	Java Programming or Java Programming	
C S 153 or C S 453	Python Programming I or Python Programming I	
C S 154 or C S 454	Python Programming II or Python Programming II	
C S 172	Computer Science I	
C S 271	Object Oriented Programming	
E E 240	Multivariate and Vector Calculus Applications	3
	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 Requirement (Area I, IV, V, VI or VWW) [2]		3
General Education Requirement (Area I, IV, V, VI or VWW) [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 Requirement (Area I, IV, V, VI or VWW) [2]		3
	Credits	**15**
Fourth Year		
Fall		
ENGR 401	Engineering Capstone I	3
Between zero and three E E Concentration Courses from the following: [3,4]		0-9
E E 395 or E E 496	Introduction to Digital Signal Processing or Introduction to Communication Systems	
E E 462 or E E 562 or E E 480 or E E 510	Computer Systems Architecture or Computer Systems Architecture or Introduction to Analog and Digital VLSI or Introduction to Analog and Digital VLSI	
E E 333	AC Circuit Analysis and Introduction to Power Systems	
E E 407	Introduction to Control Systems	
E E 395 or E E 465 or E E 565	Introduction to Digital Signal Processing or Machine Learning I or Machine Learning I	
Between zero and three STEM Electives [4,5]		9-0
General Education Requirement (Area I, IV, V, VI or VWW) [2,4]		3
	Credits	**15**
Spring		
ENGR 402	Engineering Capstone II	3
Between zero and three E E Concentration Course from one of the following: [3,4]		0-10
E E 454 or E E 473	Antennas and Radiation or Introduction to Optics	
E E 460	Space System Mission Design and Analysis	
E E 431 or E E 475	Power Systems II or Control Systems Synthesis	
Between zero and three STEM Electives [4,5]		9-0
General Education Requirement (Area I, IV, V, VI or VWW) [2,4]		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 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. Students must choose one course from three different concentration areas. See list of concentration courses in the Course Requirements section above. A single course may count as satisfying one and only one concentration area.

[4] 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/VWW electives in their final year. Students are strongly advised to consult with their ECE Faculty Mentor for assistance in planning their final year.

[5] STEM Elective: Course at the 300 level or above from E E that is not used to satisfy any other E E program requirement or courses at the 300 level or above from A E, C E, CHME, I E, M E, ASTR, BIOL, CHEM, C S, 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).