Bachelor of Science in Electrical Engineering
Student Planning Guide: Fall 2016 to present

	Fall	Winter	Spring
First Year	MATH 11 Calculus I	MATH 12 Calculus II	MATH 13 Calculus III
	CHEM 11 Chemistry I	PHYS 31 Physics for Engineers I	PHYS 32 Physics for Engineers II
	Culture and Ideas I	Culture and Ideas II	ELEN 20 Emerging Areas in Electrical Engineering
	Critical Thinking and Writing I	ELEN 21 – Intro to Logic Design	Critical Thinking and Writing II
	ENGR 1 Intro to Eng. (2 units)		
	Fall	**Winter**	**Spring**
Sophomore	ELEN 50 Circuits I	ELEN 100 Circuits II	ELEN 110 Linear Systems
	COEN 44 Applied Programming	ELEN 33 Dig. Syst. Architecture	ELEN 115 Electronic Circuits
	MATH 14 Calculus IV	AMTH 106 Differential Equations	COEN 12 Data Structures
	PHYS 33 Physics for Engineers III	PHYS 34 Physics for Engineers IV	University Core
	Fall	**Winter**	**Spring**
Junior	ELEN 104 Electromagnetics	MECH 121 Thermodynamics	AMTH 108 Probability and Statistics
	CENG 41 Mechanics I	Math Science Elective (Note 1)	ELEN 192 Intro to Sr. Design (2 units)
	ELEN Elective 1 (Note 2)	ELEN Elective 2 (Note 2)	ELEN Elective 3 (Note 2)
	University Core	ENGL 181 Eng. Comm. (4 units)	University Core
			Professional Development (Note 3)
	Fall	**Winter**	**Spring**
Senior	ELEN 194 Design Project I (2 units)	ELEN 195 Design Project II (2 units)	ELEN 196 Design Project III (2 units)
	ELEN Elective 4 (Note 2)	Optional Elective or BS/MS option (Note 4)	Optional Elective or BS/MS option (Note 4)
	University Core	University Core	Optional Elective or BS/MS option (Note 4)

Humanities & Social Science | Math & Science | Major | Technical Electives

If a **study abroad** experience is selected for fall of junior year, courses such as ELEN 104 may be moved to senior year.
If a **COOP** experience is selected for spring of junior year, courses other than ELEN 192 may be moved to senior year.

Minimum requirement of units for Electrical Engineering Degree is **190 units.**

Note 1: Math Science Elective may be one of the following:
CHEM 12, BIOL 21, PHYS 113, PHYS 121, MATH 53, MATH 105, or MATH 123

Note 2: ELEN electives: One elective must be selected from each of the following categories:

Power (P)	
164	Introduction to Power Electronics
182	Energy Systems Design
183	Power Systems Analysis
184	Power System Stability and Control

Electronics (E)	
116	Electronic Circuits II
127	Advanced Logic Design
151	Semiconductor Devices
152	Semiconductor Devices and Technology
153	Digital Integrated Circuit Design
156	Introduction to Nanotechnology

RF and Communications (C)	
105	Electromagnetics II
129	Cyber Physical Systems
141	Communication Systems
144	RF and Microwave Components

Systems (S)	
112	Modern Network Synthesis
118	Fundamentals of Computer Aided Circuit Simulation
123	Mechatronics
130	Control Systems
133	Digital Signal Processing
160	Chaos Theory, Metamathematics and the Limits of Knowledge
167	Medical Imaging Systems

Double majors must select one elective from three of the four categories.
The fourth may be selected from the following list (with approval of advisor):
COEN Majors: COEN120, COEN122, COEN146
BIOE Majors: BIOE 161, BIOE 162, BIOE 168

Note 3: Professional Development
Four or more units in study abroad program that does not duplicate other coursework.
Two units in ENGR 110.
Preparation for graduate study in electrical engineering with completion of two or more additional units of upper-division or graduate-level courses.
Completion of an approved minor or second major in any field of engineering or science.
Two units of Peer education experience.
Cooperative education experience with enrollment in ELEN 188 and ELEN 189.

Note 4: Optional Elective or BS/MS Option
These slots will be given as extra credits to be used in the 5year BS/MS program.