2014-2015 Catalogue

ELECTRICAL ENGINEERING B.S.EE.

All students must meet the University Requirements .

The curriculum leading to the degree of Bachelor of Science in Electrical Engineering includes instruction in electrical and electronic circuits, electromagnetics, semiconductor devices, signal and system analysis, communications, digital systems, as well as in physical and life sciences, humanities, and social sciences.

The degree requires a minimum of 127 credits including 24 credits of technical electives. Students may pursue a minor provided that they fulfill all electrical engineering degree requirements.

Engineering design is developed and integrated into each student's program and culminates in a required major design experience which draws upon prior course work and which focuses on the issues and expectations of professional practice.

ELECTRICAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

The Electrical Engineering program is based on a solid foundation of the mathematical and physical sciences, engineering science and design, principles of professional engineering practice, and liberal education which together prepare graduates to:

1. Succeed in careers as practicing electrical and/or computer engineers in a wide range of industrial, governmental, and educational work environments;
2. Participate as active and effective members of engineering teams (possibly multi-disciplinary), which may be composed of people of diverse educational and cultural backgrounds;
3. Lead engineering teams in an effective, fair, and responsible manner;
4. Communicate effectively, in both written and oral forms, about their engineering activities and the results of those activities;
5. Educate themselves throughout their careers about advancements within their discipline and the role of their discipline in society in general;
6. Practice their profession in an ethically, socially, and environmentally responsible manner.

PLAN OF STUDY

THE CURRICULUM FOR THE B.S. IN ELECTRICAL ENGINEERING

First Year		Credits
	Fall	Spring
CHEM 031 General Chemistry 1	4	
ENGR 002 Graphical Communication	2	
ENGS 001 Written Expression	3	
MATH 021 Calculus I	4	
HSS Electives[1]	3	3
CS 020 Programming for Engineers		3
EE 001 First-year Design Experience[2]		2
MATH 022 Calculus II		4
PHYS 030 Physics Problem Solving I (Optional)		0-1
PHYS 031 Physics for Engineers I		4
Year Total:	16	16-17

Sophomore		Credits
	Fall	Spring
CS 031 C Programming	1	
EE 003 Linear Circuit Analysis I[3]	3	
EE 081 Linear Circuits Laboratory I[3]	2	
EE 131 Fundamentals of Digital Design[3]	3	
MATH 121 Calculus III	4	
PHYS 123 Physics Problem Solving II (Optional)	0-1	
PHYS 125 Physics for Engineers II	3	
EE 004 Linear Circuit Analysis II[3]		3
EE 082 Linear Circuits Laboratory II[3]		2
EE 134 Microcontroller Systems[3]		4
MATH 271 Adv Engineering Mathematics		3
STAT 151 Applied Probability		3
Year Total:	16-17	15

Junior		Credits
	Fall	Spring
EE 120 Electronics I	3	
EE 141 Electromagnetic Field Theory	4	
EE 163 Solid State Phys Electronics I	4	
EE 171 Signals & Systems	4	
EE 183 Electronics Laboratory I	2	
EE 121 Electronics II		3
Choose two technical electives[5]		6

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EE 174 Communication Systems		4
EE 184 Electronics Laboratory II		2
Year Total:	17	15
Senior		**Credits**
	Fall	**Spring**
EE 187 Capstone Design I	3	
Choose two HSS Electives[1]	6	
Tech Elective[5]	3	3
Choose two EE Technical Electives[4]	6	6
EE 188 Capstone Design II		2
HSS Elective[1]		3
Year Total:	18	14
Total Credits in Sequence:		**127-129**

1 Required Humanities and Social Science (HSS): fifteen credits of approved HSS electives, including three credits of D1 and three credits of D1 or D2. Six HSS credits must be from the same offering department (e.g. ANTH or GEOG).

2 Transfer students without applicable transfer credit have the option of either taking EE 001 or replacing the credits with engineering course work at the 100-level or higher.

3 Pre-Engineering Technical (PET) requirements: MATH 021 and MATH 022, CHEM 031, PHYS 031 and CS 020. All PET courses must be completed with C- or better before any sophomore engineering courses may be taken.

4 Technical Electives: All EE Technical Electives[5] and CS 064, CS 100, CS 110, CS 121, CS 123, CS 124; PHYS 128; ME 014, ME 040; MATH 124; ANPS 019; ANPS 020; BSAD 180; CHEM 032, CHEM 042, CHEM 141, CHEM 142; all 200-level engineering, CS, MATH, STAT, CHEM, and PHYS courses except for practicum and seminar.

5 EE Technical Electives: EE 113, EE 164, EE 195, and all 200-level, 3-4 credit EE courses. At least 9 credits must be at the 200-level or above.