

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

2017-2018 Degree Requirements

TOTAL CREDITS FOR DEGREE: 131

UNIVERSITY CORE CURRICULUM

42 credits

Required Courses:

COMM 101	Oral Comm. & Pres.	3 credits
ENGL 101	College Composition	3 credits
UNIV 101	City-University Life	3 credits
	Senior Capstone	3 credits

Choose thematic core courses in the following:

Explore the World - Choice 1	3 credits
Explore the World - Choice 2	3 credits
Investigate Science	3 credits
Investigate Mathematics	3 credits
Interpret Creative Works	3 credits
Understand People - Choice 1	3 credits
Understand People - Choice 2	3 credits
Succeed in Business	3 credits
Appreciate & Apply the Arts	3 credits
Discover Technology	3 credits

MAJOR REQUIREMENTS

89 credits

(C = taken in the Core)

CHEM 101	General Chemistry I (Inv. Science)	C	MET 101	Statics	3
CHEM 103	General Chemistry Laboratory I	1	MET 102	Dynamics	3
MATH 190	Calculus I (Inv. Mathematics + 1 credit)	1	EE 101	Circuit Analysis I	3
MATH 210	Calculus II	4	EE 102	Circuit Analysis II	3
MATH 230	Linear Algebra I	3	EE 103	Circuit Analysis Laboratory I	1
MATH 300	Calculus III	4	EE 104	Circuit Analysis Laboratory II	1
MATH 310	Differential Equations	3	EE 221	Electronics I	4
MATH 330	Mathematical Statistics	3	EE 222	Electronics II	4
			EE 331	Electrical Power I	4
NSET 101	Intro. to NSET (Discover Technology)	C	EE 332	Electrical Power II	4
			EE 351	Digital Electronics I	3
PHYS 201	Fundamentals of Physics I	3	EE 352	Microprocessors I	3
PHYS 202	Fundamentals of Physics II	3	EE 375	Signals and Systems	4
PHYS 103	Physics Laboratory I	1			
PHYS 104	Physics Laboratory II	1			
				Technical Electives (16 credits):	
EGR 401	Engineering Design I	3	EE 415	Electromagnetics	4
EGR 402	Engineering Design II (Senior Capstone)	C	EE 425	Power Electronics	4
			EE 435	Electrical Distribution Systems	4
ET 204	Programming for Engineering Tech.	3	EE 445	Control Systems	4
ET 405	Fund. of Engineering Examination I	0	EE 455	Digital Electronics II	4
ET 406	Fund. of Engineering Examination II	0	EE 465	Communication Electronics	4
			EE 467	Digital Signal Processing	4

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PROGRAM OBJECTIVES

Upon successful completion of this program,

1. Students will analyze and design electrical systems, components and processes.
2. Students will test electrical systems, components and processes, analyze the resulting data, and make iterative improvements.
3. Students will develop computer hardware and software to support the analysis, design and operation of electrical systems, components, and processes.
4. Students will solve engineering problems by using standard formulas, graphs, tables, and software while recognizing the limitations of these techniques.
5. Students will solve engineering problems by applying principles of mathematics, science, and engineering.
6. Students will collaborate in laboratory and classroom settings to fulfill technical requirements in a timely manner.
7. Students will produce clear, precise, and effective technical documents and oral presentations.
8. Students will plan and manage technical projects.
9. Students will be prepared to grow professionally through independent learning, continuing education, and participation in technical societies.
10. Students will take the Fundamentals of Engineering examination as the first step toward professional licensure.
11. Students will be familiar with the laws and codes governing professional practice.
12. Students will understand their personal and professional roles in society.

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EE Course Number Key

The first digit represents the course's level:

- 1xx = freshman
- 2xx = sophomore
- 3xx = junior
- 4xx = senior

The second digit represents the course's curricular area:

- x0x = networks
- x1x = electromagnetics
- x2x = electronic devices and circuits
- x3x = power machines and systems
- x4x = controls
- x5x = digital electronics and systems
- x6x = communications and signal processing
- x7x through x9x = general topics

The third digit represents the course's position in a sequence:

- xx5 through xx9 = stand-alone course that is not part of a sequence
- xx1 = first course in a sequence
- xx2 = second course in a sequence