

DEPARTMENT OF ELECTRICAL ENGINEERING

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The Department of Electrical Engineering offers a four-year degree program leading to the degree Bachelor of Science in Electrical Engineering (BSEE). This program is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

The mission of the Department of Electrical Engineering at Arkansas Tech University is to maintain an accredited program leading to the Bachelor of Science degree. The Department is committed to providing its students with a positive atmosphere in which to learn the fundamentals of engineering practice including engineering science and design. In order to fulfill its mission, the Department has established the following educational objectives.

The educational objectives of the program leading to the BSEE degree at Arkansas Tech University are to:

1. To produce graduates trained in the fundamentals of engineering science, applied mathematics, laboratory practice, and the principles of electrical engineering.
2. To produce graduates prepared for clear communication, responsible teamwork, and effective planning and management of projects in preparation for the demands of modern society.
3. To produce graduates with the technical, computer, and structured problem solving skills necessary to analyze effectively and to design electrical engineering systems.
4. To produce graduates with a sense of social and environmental responsibility, ethical professional conduct, and a respect for lifelong learning.

The first two years of curriculum contain the needed mathematics, science and engineering science basics to prepare the student for the upper level electrical engineering courses. The junior and senior years include 12 hours of electives which allow students to concentrate their studies in an area of specialization such as electric power, computers, robotics, or communications.

Pre-Professional curriculum

Prior to enrolling in any 3000 or 4000-level engineering courses, students must successfully complete a pre-professional curriculum containing preparatory courses normally taken during the first three semesters. The pre-professional curriculum is composed of the following courses:

ENGL 1013 and ENGL 1023 (or equivalent)
MATH 2914 and 2924
CHEM 2124
PHYS 2114

Satisfactory completion of the pre-professional curriculum is defined as a grade of "C" or better in each course or, alternatively, a grade point average of 2.20 or greater for the courses comprising the pre-professional curriculum. Students should meet with their advisor during the semester in which they anticipate completing the pre-professional curriculum to complete the procedure for admittance to upper-level engineering courses.

The following curriculum represents the program of study and a suggested sequence for the Bachelor of Science in Electrical Engineering degree. The student should be aware that not all courses are offered each semester and that the ordering of courses is subject to change. In order to minimize scheduling difficulties, each student should schedule a special session with their advisor at the beginning of their junior year to plan the remaining coursework.

Bachelor of Science in Electrical Engineering (BSEE)

Freshman Year	Fall	Spring
Introduction To Engineering (ELEG/MCEG 1012)	2	
Biological Science ¹	4	
Programming in C (COMS 2803)	3	
English Composition I, II (ENGL 1013, 1023) ¹	3	3
Calculus I, II (MATH 2914, 2924)	4	4
General Chemistry (CHEM 2124)		4
Digital Logic Design (ELEG 2133)		3
Digital Logic Design Lab (ELEG 2131)		1
Total	16	15
Sophomore Year		
Calculus III (MATH 2934)	4	
Statics (MCEG 2013)	3	
Fine Arts ¹	3	
Electric Circuits I (ELEG 2103)	3	
Physics I, II (PHYS 2114, 2124)	4	4
Dynamics (MCEG 2033)		3
Differential Equations (MATH 3243)		3
Electric Circuits II (ELEG 2113)		3
Electric Circuits Laboratory (ELEG 2111)		1
Microprocessor Systems Design (ELEG 3133)		3
Total	17	17
Junior Year		
Electronics I (ELEG 3103)	3	
Electronics Lab (ELEG 3131)	1	
Signals and Systems (ELEG 3123)	3	
Physical Activity ¹	1	
Social Science ¹	3	
Applied Statistics (MATH 3153)	3	
Engineering Materials (MCEG 2023)	3	
Electronics II (ELEG 4103)		3
Electromagnetics (ELEG 3143)		3
Principles of Economics I (ECON 2003)		3
Communication Systems I (ELEG 4143)		3
Social Science ¹		3
Engineering Elective ³		3
Total	17	18
Senior Year		
Technical Elective ²	3	
Engineering Design (ELEG/MCEG 4202)	2	
Engineering Modeling & Design (ELEG 3003)	3	
Digital Signal Processing (ELEG 4113)	3	
Social Science ¹	3	
Engineering Elective ³	3	
Physical Activity ¹		1

Bachelor of Science in Electrical Engineering (BSEE)

Control Systems (ELEG 4303)		3
Design Project (ELEG 4193)		3
Engineering Elective ³		3
Humanities ¹		3
Thermodynamics I (MCEG 3313)		3
	Total	17
		16

¹See appropriate alternatives or substitutions in "General Education Requirements" on page 76.

²Technical Elective must be a course from Engineering, Math or the Sciences excluding courses intended for Education Majors. All electives must have approval of Department.

³Engineering Elective must be a 3000 or 4000 level Electrical Engineering course.