DEPARTMENT OF ELECTRICAL ENGINEERING

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

The computer engineering degree provides the educational background for engineers to pursue a career in the integrated hardware and software design development cycle for a variety of industries. Computer engineering is an academic discipline that blends electrical and electronic engineering with computer science.

Computer engineers build systems with embedded programmable devices such as microprocessor as well as general purpose programmable logic components (such as FPGA – field programmable gate arrays). Systems requiring computer control include a wide variety from medical (for example CAT – Computer Aided Tomography systems) to automotive (adaptive cruise control as well as completely autonomous vehicles). Computer engineers require competency in both hardware as well as software to facilitate designing, programming, and construction of these computer-based systems. The computer engineering curriculum at Arkansas Tech provides a solid background in a full spectrum of the knowledge and skills required to become a highly successful computer engineer.

It is highly recommended that all freshmen engineering students starting fall 2017 purchase laptop computers. Laptop computer specifications are at: https://www.atu.edu/engineering/specifications.php.

For a detailed policy regarding transfer credit for the Electrical Engineering programs, please see the Electrical Engineering Programs page.

The following curriculum represents the program of study and a suggested sequence for the Bachelor of Science in Computer Engineering degree. The student should be aware that not all courses are offered each semester and 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.

Curriculum

Program: Bachelor of Science Computer Engineering
Major: Computer Engineering

The matrix below is a sample plan for all coursework required for this major.

Freshman

Fall	Credits
ENGL 1013 [1]	3
FAH 1XXX [1]	3
MATH 2914	4
CHEM 2124 and CHEM 2120	4
ELEG 1011	1
TECH 1001	1
Total Hours	**16**

Spring	Credits
ENGL 1023 [1]	3
COMS 1011 and COMS 1013	4
MATH 2924	4
ELEG 2130 and ELEG 2134	4
Total Hours	**15**

Sophomore

Fall	Credits
PHYS 2114 and PHYS 2000	4
COMS 2203	3
MATH 3243	3
ELEG 2103	3
ELEG 3133	3
Total Hours	**16**

Spring	Credits
PHYS 2124 and PHYS 2010	4
MATH 2934	4
STAT 3153	3
ELEG 2111	1
ELEG 2113	3
Total Hours	**15**

Junior

Fall	Credits
SS 1XXX [1]	3
FAH 1XXX [1]	3
MATH 2703	3
ELEG 3003 / MCEG 3003	3
ELEG 3103	3
Total Hours	**15**

Spring	Credits
COMS 2213	3
COMS 2223	3
ELEG 3123	3
ELEG 3143	3
ELEG 4103	3
ELEG 4202 / MCEG 4202	2
Total Hours	**17**

Senior

Fall	Credits
ELEG 4113 [3]	3
ELEG 4133 [3]	3
ELEG 4143	3
ELEG 4191	1
ELEG 4303	3
Total Hours	**13**

Spring	Credits
USHG 1XXX[1]	3
COMS 3703	3
ELEG 4122	2
ELEG 4192	2
Electrical Engineering Elective [2, 3]	3
Total Hours	**13**

[1]See appropriate alternatives or substitutions in "General Education Requirements".

[2]Engineering Elective must be a 3000 or 4000 level Electrical Engineering course.

[3]This program partners the BSCMPE undergraduate degree with the MSEE degree. A maximum of 12 graduate level credit hours can be counted towards both the BSCMPE degree in Computer Engineering and the MSEE degree. Four graduate level courses can be used to replace four upper-division undergraduate courses as follows:

- ELEG 5313 can replace ELEG 4313
- ELEG 5113 can replace ELEG 4113
- ELEG 5153 can replace ELEG 4153
- ELEG 5133 can replace ELEG 4133
- ELEG 5993 can replace ELEG 4993