

**2023-2024 Degree Map Program: Bachelor of Science in Electrical Engineering, Major: Electrical Engineering With Biomedical Option**

This map is a term-by-term sample course schedule. The milestones listed to the right of each term are designed to keep you on course to graduate in four years. The Sample Schedule serves as a general guideline to help you build a full schedule each term. See course descriptions and prerequisites at <http://www.atu.edu/catalog/>

**Employment Information:** Electrical engineers design, develop, build, and test, electrical and electronic devices and systems. These systems include robotics, controls, electric motors, radar and navigation systems, communications systems, electronic equipment, and power generation and distribution devices and systems including renewable energy applications.

#Prerequisite Courses: ENGL 0303 \_\_\_\_\_ MATH 0803 \_\_\_\_\_ MATH 1003 \_\_\_\_\_ MATH 0903 \_\_\_\_\_ MATH 1113 \_\_\_\_\_ MATH 1110 \_\_\_\_\_ MATH 1203 \_\_\_\_\_ MATH 1914 \_\_\_\_\_

**Sample Schedule**

Semester 1	Hrs.	Grade	Milestones/Notes	Semester 1
ENGL 1013- Comp I (ACTS=ENGL 1013)	3	#		
BIOL1114: Principles of Biology (ACTS= BIOL 1014)	4			
MATH 2914- Calculus I (ACTS= MATH 2405)	4	#	Milestone	
CHEM 2124/2120- General Chemistry I (ACTS= CHEM 1414)	4	#		
ELEG 1011- Intro. to Electrical Engineering	1			
TECH1001- Orientation to the University	1			
Total hours	17	GPA		
Semester 2	Hrs.	Grade	Milestones/Notes	Semester 2
ENGL 1023- Comp II (ACTS= ENGL 1023)	3	#		
BIOL 2014: Human Anatomy (ACTS=BIOL 2404)	4	#		
MATH 2924- Calculus II (ACTS= MATH 2505)	4	#	Milestone	
CHEM2134/2130: General Chemistry II (ACTS= CHEM 1424)	4			
Total hours	15	GPA		

Semester 3	Hrs.	Grade	Milestones/Notes	Semester 3
CHEM3254/3250: Fundamentals of Org. Chemistry	4		SEE NOTE 1: AB2M	
MATH 3243- Differential Equations I	3		Milestone	
PHYS 2114/2000- Calculus-Based Physics/Lab I (ACTS= PHYS 2034)	4		Milestone	
ELEG 2103- Electric Circuits I	3		Milestone	
BIOL 3034: Genetics (optional see note)	4	#	Recommended for Medical Track	
Total hours	14/18	GPA		

Semester 4	Hrs.	Grade	Milestones/Notes	Semester 4
U.S. History/Government	3			
SOC 1003- Introductory Sociology (ACTS = SOC1 1013)	3			
COMS 1013- Programming Foundations I	3	#	Co-Req: COMS 1011	
COMS 1011- Programming Foundations I Lab	1	#	Pass/Fail	
ELEG 2113/2111- Electric Circuits II/ Lab	4		Milestone	
CHEM3264: Mechanistic Organic Chemistry (optional see note)	4		Recommended for Medical Track	
Total hours	14/18	GPA	ELEG ADVISOR ASSIGNED	

The Arkansas Course Transfer System (ACTS) is designed to assist in planning the academic progress of students. This system contains information about the transferability of courses within Arkansas public colleges and universities. The Arkansas Course Transfer System can be accessed by searching keyword "ACTS" at <https://adhe.edu/>

Fine Arts and Humanities	U.S. History & Government
ART 2123 Experiencing Art (ACTS=ARTA1003)	HIST 1903 Survey of American History
MUS 2003 Introduction to Music (ACTS=MUSC1003)	HIST 2003 U.S. History to 1877 (ACTS=HIST2113)
TH 2273 Introduction to Theatre (ACTS=DRAM 1003)	HIST 2013 U.S. History since 1877 (ACTS=HIST2123)
ENGL/JOUR 2173 Introduction to Film	POLS 2003 American Government (ACTS=PLSC2003)
ENGL 2003 Introduction to World Literature (ACTS=ENGL2113)	
ENGL 2013 Intro. to American Literature (ACTS=ENGL2653)	
PHIL 2003 Introduction to Philosophy (ACTS=PHIL1103)	
PHIL 2053 Introduction to Critical Thinking (ACTS=PHIL 1003)	
1013 from SPAN, FR, GER, JPN, CHIN, or LAT	
1023 from SPAN, FR, GER, JPN, CHIN, or LAT	
	<b>NOTE 1 - Consider Accelerated BSEE Electrical Engineering Biomedical Option to MENG Electrical Engineering. See Catalog BEFORE Junior Year.</b>

University Honors students should consult Course Catalog for appropriate Fine Arts/Humanities, US History/Government and Social Science options for University Honors Curriculum.

**Sample Schedule**

Semester 5	Hrs.	Grade	Milestones/Notes	Semester 5
MATH 2703 Discrete Mathematics	3			
MATH 2934- Calculus III (ACTS= MATH 2603)	4		Milestone	
PHYS 2124/2010- Calculus-Based Physics II (ACTS= PHYS 2044)	4		Milestone	
ELEG 3103- Electronics I	3		Fall Only Course - Milestone	
CHEM3344: Principles of Biochemistry (optional see note)	4		Recommended for Medical Track	
Total hours	14/18	GPA		

Semester 6	Hrs.	Grade	Milestones/Notes	Semester 6
ELEG 3123- Signals and Systems	3		Spring only	
ELEG 3143- Electromagnetics	3		Spring only	
STAT 3153 Applied Statistics 1	3			
ELEG 4103- Electronics II	3		Milestone - Spring Only	
ELEG 4122- Electrical Systems Lab	2		Spring only	
ELEG 4202 or MCEG 4202- Engineering Design	2		Milestone	
Total hours	16	GPA	APPLY FOR GRADUATION	

Semester 7	Hrs.	Grade	Milestones/Notes	Semester 7
PSY 2003- General Psychology (ACTS = PSYC 1103)	3			
ELEG 2134/2130- Digital Logic Design/ Lab	4			
ELEG 3003 or MCEG 3003- System Modeling and Analysis	3		Milestone	
ELEG 4113-Digital Signal Processing	3		Fall Only	
ELEG 4143- Communication Systems I	3		Fall Only	
ELEG 4191- Electrical Design Project I	1			
Total hours	17	GPA		

Semester 8	Hrs.	Grade	Milestones/Notes	Semester 8
Fine Arts & Humanities	3		<b>Graduation Requirements:</b> Min. hours 3000-4000 level courses: 40 No more than 4 PE activity hours Min. hours required:122 2.00+ GPA	
BIOL3074: Human Physiology	4			
ELEG 3133- Microprocessor Systems Design	3			
ELEG 4192- Electrical Design Project II	2			
ELEG 4303- Control Systems	3			
BIOL4033: Cell Biology (optional see note)	3		Recommended for Medical Track	
Total Hours	15/18	GPA		

General Electives: 0

# indicates a "C" or better is required (C > required in COMS 1013/1011 only as prereq for COMS 2203)