

2026-2027 Degree Map Program-Bachelor of Science in Electrical Engineering, 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 <https://catalog.atu.edu/>

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

Possible Careers: Medical Device, Biomechanics, Clinical, Medical Imaging, and Research Engineering

Sample Schedule

Semester 1	Hrs.	Grade	Milestones/Notes	Semester 1
ENGL 1013-Comp I (ACTS=ENGL 1013)	3	#		
BIOL 1114-Principles of Biology (ACTS= BIOL 1014)	4		Prereq: ACT >21, or C> in MATH 0903 or college science	
MATH 2914-Calculus I (ACTS= MATH 2405)	4	#	Prereq: MATH ACT >26, or C> in MATH 1203/1914	
CHEM 2124/2120-General Chemistry I and lab	4		Prereq: MATH ACT >21, or C> in MATH 1113 or CHEM 1113/1111	
TECH 1001-Orientation to the University	1			
ELEG 1011-Intro to Electrical and Computer Engineering	1		Prereq: C> in MATH 1203/1914 or higher	
Total hours	17	GPA	Meet with Career Services	

Semester 2	Hrs.	Grade	Milestones/Notes	Semester 2
ENGL 1023-Comp II (ACTS= ENGL 1023)	3	#		
BIOL 2014-Human Anatomy (ACTS=BIOL 2404)	4		Prereq: C> in science	
MATH 2924-Calculus II (ACTS= MATH 2505)	4		Prereq: C> in MATH 2914	
CHEM 2134/2130-General Chemistry II and lab	4		Prereq: C> in CHEM 2124	
			Draft a résumé and upload it to Handshake	
Total hours	15	GPA		

Semester 3	Hrs.	Grade	Milestones/Notes	Semester 3
CHEM 3254/3250-Fundamentals of Org. Chemistry and lab	4		Prereq: C> in CHEM 2134	
MATH 3243-Differential Equations I	3		Prereq: C> in MATH 2924	
PHYS 2114/2000-Calculus-Based Physics I and lab	4		Coreq: MATH 2914	
ELEG 2103-Electric Circuits I	3		Prereq: C> in MATH 2924	
BIOL 3034-Genetics	4		Recommended for Medical Track	
			Work on resume for internships	
Total hours	14/18	GPA	Attend career fairs on campus	

Semester 4	Hrs.	Grade	Milestones/Notes	Semester 4
U.S. History/Government	3		SEE NOTE 1: AB2M	
SOC 1003-Introductory Sociology (ACTS = SOCI 1013)	3			
COMS 1013/1011-Programming Foundations I and lab	3		Prereq: MATH 1113 or higher	
ELEG 2113/2111-Electric Circuits II and lab	1		Prereq: C> in ELEG 2103 and MATH 3243	
CHEM 3264/3260-Mechanistic Organic Chemistry and lab	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) MUS 2003 Survey of Music History (ACTS=MUSC1003) TH 2273 Introduction to Theatre (ACTS=DRAM 1003) ENGL/JOUR 2173 Introduction to Film 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 LEAD 2003 Ethics in Leadership	HIST 1903 Survey of American History HIST 2003 U.S. History to 1877 (ACTS=HIST2113) HIST 2013 U.S. History since 1877 (ACTS=HIST2123) POLS 2003 American Government (ACTS=PLSC2003)
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		Prereq: C> in MATH 1113 or higher	
MATH 2934-Calculus III (ACTS= MATH 2603)	4		Prereq: C> in MATH 2924	
PHYS 2124/2010-Calculus-Based Physics II and lab	4		Prereq or Coreq: MATH 2924	
ELEG 3103-Electronics I	3		Fall Only Prereq: C> in ELEG 2113/2111	
CHEM 3344/3340-Principles of Biochemistry and lab	4		Recommended for Medical Track	
			Start applying to internships	
Total hours	14/18	GPA		

Semester 6	Hrs.	Grade	Milestones/Notes	Semester 6
ELEG 3123-Signals and Systems	3		Spring only Prereq: MATH 3243 and ELEG 2113	
ELEG 3143-Electromagnetics	3		Spring only Prereq: MATH 2934 and PHYS 2124	
STAT 3153-Applied Statistics 1	3		Prereq: C> in MATH 2924	
ELEG 4103-Electronics II	3		Spring only Prereq: ELEG 3103	
ELEG 4122-Electrical Systems Lab	2		Spring Only Prereq: ELEG 3103	
ELEG/MCEG 4202-Engineering Design	2		Prereq: ELEG 3103	
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		Pre-req: ELEG 1011 or COMS 1013	
ELEG/MCEG 3003-System Modeling and Analysis	3		Prereq: COMS 1013 or MCEG 2203 and MATH 3243	
ELEG 4113-Digital Signal Processing	3		Fall Only Prereq: ELEG 3123 and 3003/MCEG 3003	
ELEG 4143-Communication Systems I	3		Fall Only Prereq: ELEG 3123	
ELEG 4191-Electrical Design Project I	1		Prereq: ELEG/MCEG 4202	
Total hours	17	GPA		

Semester 8	Hrs.	Grade	Milestones/Notes	Semester 8
Fine Arts & Humanities	3		Graduation Requirements: Min. hours 3000-4000 level courses: 40 No more than 4 PE activity hours Min. hours required: 122 2.00+ GPA Recommended for Medical Track	
BIOL 3074-Human Physiology	4			
ELEG 3133-Microprocessor Systems Design	3			
ELEG 4192-Electrical Design Project II	2			
ELEG 4303-Control Systems	3			
BIOL 4033-Cell Biology	3			
Total Hours	15/18	GPA		

Electives: 0

indicates a "C" or better is required

NOTE 1 - Consider Accelerated BSEE Electrical Engineering Biomedical Option to MENG Electrical Engineering. See Catalog BEFORE Junior Year

These courses are not required for the Biomedical Option major; however, they are recommended for application to an advanced medical degree program