ARKANSAS TECH UNIVERSITY

NAME:_____ T#:_____ DATE:_____

8-Semester Guaranteed Program

Rev. 03/23/2023

2023-2024 Degree Map-Bachelor of Science in Mechanical Engineering

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/

Possible careers include: Mechanical engineering is one of the broadest engineering disciplines. Mechanical engineers design, develop, build, and test mechanical and thermal systems. These systems include mechanical devices such as tools, engines, and machines, and thermal devices including steam power plants, heating, ventilation and air-conditioning systems (HVAC), and pumping systems.

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

Sample Schedule — **Milestones/Notes**

Semester 1	Hrs.	Grade	Semester 1
ENGL 1013-Comp I (ACTS=ENGL 1013)	3	#	
Fine Arts & Humanities	3		
MATH 2914- Calculus I (ACTS= MATH 2405)	4	#	Milestone
CHEM 2124/2120- General Chemistry I (ACTS= CHEM 1414)	4		Milestone
MCEG 1011- Introduction to Mechanical Engineering	1		
TECH1001: Orientation to the University	1		
Total hours	16	GPA	
Semester 2	**Hrs.**		**Semester 2**
ENGL 1023- Comp II (ACTS= ENGL 1023)	3	#	
PHYS 2114/2000- Calculus-Based Physics I (ACTS= PHYS 2034)	4		Milestone
MATH 2924- Calculus II (ACTS= MATH 2505)	4	#	Milestone
MCEG 1002- Engineering Graphics	2		
MCEG 2203- Computational Methods in Engineering	3		
Total hours	16	GPA	

Semester 3	Hrs.		Semester 3
CHEM 2134/2130- General Chemistry II(ACTS= CHEM1424) **OR** PHYS 2124/2010- Calculus-Based Physics II (ACTS= PHYS2044)	4		
MATH 2934- Calculus III (ACTS= MATH 2603)	4		Milestone
MCEG 2013- Statics	3		Milestone
MCEG 2023- Engineering Materials	3		**SEE NOTE 1: AB2M**
Total hours	14	GPA	

Semester 4	Hrs.		Semester 4
Social Sciences	3		
ELEG 2103- Electrical Circuits I	3		Must take in sequence with ELEG 2113
MATH 3243- Differential Equations I	3		Milestone
MCEG 2033- Dynamics	3		Milestone
MCEG 3013- Mechanics of Materials	3		Milestone
Total hours	15	GPA	**MCEG 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/

Sample Schedule — **Milestones/Notes**

Semester 5	Hrs.	Grade	Semester 5
ELEG 2113- Electrical Circuits II	3		Must be taken in sequence with ELEG 2103
MCEG 3313- Thermodynamics I	3		Milestone
MCEG 3413- Fundamentals of Mechanical Design	3		Milestone
MCEG 3442- Mechanical Laboratory I	2		
Engineering Elective (3000-4000 level)	3		
Total hours	14	GPA	

Semester 6	Hrs.		Semester 6
MCEG 4202 or ELEG 4202- Engineering Design	2		
MCEG 4403- Mechanics of Fluids and Hydraulics	3		
MCEG 4423- Machine Component Design	3		
MATH Elective (department approval required)	3		
Engineering Elective (3000-4000 level)	3		
Total hours	14	GPA	**APPLY FOR GRADUATION**

Semester 7	Hrs.		Semester 7
U.S. History/Government	3		
MCEG 3003 or ELEG 3003- System Modeling & Analysis	3		Milestone
MCEG 4433- Thermodynamics II	3		
MCEG 4442- Mechanical Laboratory II	2		
MCEG 4491: Mechanical Design Project I	1		
Technical Elective (departmental approval required)	3		
Total hours	15	GPA	

Semester 8	Hrs.		Semester 8
MCEG 4492: Mechanical Design Project II	2		Milestone
ELEG 4303- Control Systems	3		
MCEG 4443- Heat Transfer	3		**Graduation Requirements:**
Fine Arts & Humanities	3		Min. hours 3000-4000 level courses: 40
Engineering Lab Elective (3000-4000 level)	2		No more than 4 PE activity hours
Engineering Elective (4000 level)	3		Min. hours required:120
Total Hours	16	GPA	2.00+ GPA

General Electives: 0

# indicates a "C" or better is required

Fine Arts and Humanities
ART 2123 Experiencing Art (ACTS=ARTA1003)
MUS 2003 Introduction to Music (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

U.S. History & Government
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)

NOTE 1 - Consider Accelerated BSME Mechanical Engineering to MENGR Mechanical Engineering. See Catalog BEFORE Junior Year.

Social Sciences
HIST 1503 World History to 1500 (ACTS=HIST1113)
HIST 1513 World History since 1500 (ACTS=HIST1123)
HIST 2003 U.S. History to 1877 (ACTS=HIST2113)
HIST 2013 U.S. History since 1877 (ACTS=HIST2123)
HIST 1903 Survey of American History
POLS 2003 American Government (ACTS=PLSC2003)
ECON 2003 Principles of Macroeconomics (ACTS=ECON2103)
ECON 2013 Principles of Microeconomics (ACTS=ECON2203)
SOC 1003 Introductory Sociology (ACTS=SOCI1013)
PSY 2003 General Psychology (ACTS=PSYC1103)
ANTH 1213 Intro. to Anthropology (ACTS=ANTH1013)
ANTH 2003 Cultural Anthropology (ACTS=ANTH2013)
GEOG 2013 Regional Geography of the World (ACTS=GEOG2103)
AMST 2003 American Studies
FIN 2013 Personal Finance
LEAD 1003 Introduction to Leadership

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