2+2 Degree Plan Checklist
Associate of Science in Pre-Engineering to Bachelor of Science in Mechanical Engineering (BSME)

National Park College
Associate of Science in Pre-Engineering (60 Credit Hours)

General Education Requirements (30 Credit Hours)

Freshman English/Writing (6 credit hours)			ATU equivalent	Hours
ENG	1113	English Composition I **AND**	ENGL 1013 Composition I	3
ENG	1123	English Composition II	ENGL 1023 Composition II	3

Mathematics (4 credit hours)			ATU equivalent	Hours
MATH	2214	Calculus I	MATH 2914 Calculus I	4

Lab Sciences (8 credit hours)			ATU equivalent	Hours
CHEM	1204	Chemistry I for Majors	CHEM 2124 General Chemistry I	4
PHYS	2114	Physics I for Majors	PHYS 2114 Calculus-Based Physics I	4

Fine Arts/Humanities (6 credit hours)			ATU equivalent	Hours
ART MUS	1593 1213	Art Appreciation **OR** Music Appreciation	ART 2123 Experiencing Art MUS 2003 Intro to Music	3
ENG ENG	2223 2273	American Literature I **OR** World Literature I	ENGL 2013 Intro to American Literature ENGL 2003 Intro to World Literature	3

Social Sciences (6 credit hours)			ATU equivalent	Hours
ECON ECON	2203 2213	Macroeconomics **OR** Microeconomics **AND**	ECON 2003 Principles of Economics I ECON 2013 Principles of Economics II	3
HIST HIST POLS	2223 2233 1113	United States History To 1865 **OR** United States History Since 1865 **OR** American National Government	HIST 2003 United States History to 1877 HIST 2013 United States History since 1877 POLS 2003 American Government	3

A.S. in Pre-Engineering Required Courses (30 credit hours)			ATU equivalent	
EGR	1122	Introduction to Engineering	ELEG/MCEG 1011 Intro to Mech. Engineering *and* GENL 1xx1 General Elective	2
EGR	1143	Engineering Graphics	MCEG 1002 Engineering Graphics *and* GENL 1xx1 General Elective	2 1
EGR	2104	Electric Circuits I	ELEG 2103 Electric Circuits I *and* GENL 2xx1 General Elective	4
EGR	2113	Engineering Materials	MCEG 2023 Engineering Materials	3
EGR	2123	Statics	MCEG 2013 Statistics	3
EGR	2213	Dynamics	MCEG 2033 Dynamics	3
MATH	2224	Calculus II	MATH 2924 Calculus II	4
MATH	2254	Calculus III	MATH 2934 Calculus III	4
PHYS	2124	Physics II for Majors	PHYS 2124 Calculus –Based Physics II	4

NPC Required Courses (0 Credit Hours)

			ATU equivalent	Hours
ORT	1000	Student LMS Training	N/A	0
ORT	1100	NPC Orientation	N/A	0

Total NPC Hours: 60

Academic Year: 2023-2024
Revised: 03.17.23

2+2 Degree Plan Checklist
Associate of Science in Pre-Engineering to Bachelor of Science in Mechanical Engineering (BSME)

Arkansas Tech University
Bachelor of Science in Mechanical Engineering (BSME) 62 Hours

Arkansas Tech University Courses

TECH	1001	Orientation to the University[1]	Waive
MCEG	2203	Computational Methods in Engineering	3
MCEG/ELEG	3003	System Modeling and Design	3
MCEG	3013	Mechanics of Materials	3
MATH	3243	Differential Equations I	3
ELEG	2113	Electric Circuits II	3
MCEG	3313	Thermodynamics I	3
MCEG	3413	Fundamentals of Mechanical Design	3
MCEG	3442	Mechanical Laboratory I	2
MCEG/ELEG	4202	Engineering Design	2
MCEG	4403	Mechanics of Fluids and Hydraulics	3
MCEG	4423	Machine Component Design	3
MCEG	4433	Thermodynamics II	3
MCEG	4442	Mechanical Laboratory II	2
MCEG	4443	Heat Transfer	3
MCEG	4491	Mechanical Design Project I	1
ELEG	4303	Control Systems	3
MCEG	4492	Mechanical Design Project II	2
		3000-4000 level Engineering Electives[2]	6
		4000 level Engineering Elective[3]	3
		3000-4000 Engineering Lab Elective	2
		Math Elective[4]	3
		Technical Elective[5]	3

Total ATU Credit Hours: 62
Total Credit House: 122

[1]Waive Tech 1001.
[2]3000-level or above ELEG or MCEG laboratory class.
[3]4000-level or above ELEG or MCEG course with minimum of three (3) hours at the 4000-level and approval of advisor.
[4]Mathematics elective course to be chosen with approval of advisor from list of eligible courses maintained in the departmental office.
[5]Technical elective course to be chosen with approval of advisor from list of eligible courses maintained in the departmental office.

Arkansas Tech University

3/20/2023

Dr. Julie Furst-Bowe **Date**
Interim Vice President for Academic Affairs

National Park College

03/17/23

Dr. Wade Derden **Date**
Vice President for Academic Affairs

Academic Year: 2023-2024
Revised: 03.17.23