



**Degree Plan Checklist
Associate of Science in STEM
Bachelor of Science
Engineering (BSE)**



**National Park College
Associate of Science in STEM**

General Education Requirements (30 Credit Hours)

English/Communication (6 credit hours)

			SAU	Semester	Hours	Grade
ENG	1113	English Composition I	ENGL 1113		3	
ENG	1123	English Composition II	ENGL 1123		3	

Mathematics (4 credit hours)

			SAU	Semester	Hours	Grade
MATH	2214	Calculus I	MATH 1525		4	

Fine Arts and Humanities (6 credit hours)

			SAU	Semester	Hours	Grade
ART	1593	Art Appreciation <i>or</i>	ART 2013		3	
MUS	1213	Music Appreciation	MUS 2013			
ENG	2273	World Literature I <i>or</i>	ENGL 2213		3	
ENG	2283	World Literature II	ENGL 2223			

History/Government (3 credit hours)

			SAU	Semester	Hours	Grade
HIST	2223	United States History To 1865 <i>or</i>	HIST 2013		3	
HIST	2233	United States History Since 1865 <i>or</i>	HIST 2023			
POLS	1113	American National Government	PSCI 2003			

Social Sciences (3 credit hours)

			SAU	Semester	Hours	Grade
ECON	2203	Macroeconomics <i>or</i>	ECON XXXX		3	
ECON	2213	Microeconomics <i>or</i>	ECON 2103			
PSYC	1103	General Psychology <i>or</i>	PSYC 2003			
SOC	1103	Introduction to Sociology	SOC 2003			

Lab Sciences (8 credit hours)

			SAU	Semester	Hours	Grade
CHEM	1204	General Chemistry I/Lab	CHEM 1023/1021		8	
PHYS	2114	University Physics I/Lab	PHYS 2203/2201			



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Directed Electives (32 Credit Hours)

			SAU	Semester	Hours	Grade
CHEM	2204	General Chemistry II/Lab	CHEM 1123/1121		4	
CIS	1033/1031	Computer Science I/Lab	CSCI 2103		4	
MATH	2224	Calculus II	MATH 1545		4	
MATH	2254	Calculus III	MATH 2563		4	
MATH	2284	Differential Equations	MATH 3033		4	
PHYS	2124	University Physics II/Lab	PHYS 2213/2211		4	
EGR	1122	Intro to Engineering	ENGR 1023		2	
EGR	1143	Engineering Graphics	ENGR 1213		3	
EGR	2113	Engineering Materials	ENG 2043		3	

NPC Required Courses (0 Credit Hours)

			SAU	Semester	Hours	Grade
ORT	0000	Student LMS/Online Orientation	N/A		0	
ORT	1100	Freshman Orientation	N/A		0	

Total NPC Credit Hours: 62



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Southern Arkansas University

Required Courses (60 credit hours)

			Semester	Hours	Grade
ENGR	1021	Introduction to Engineering Lab		1	
ENGR	2143	Statics		3	
ENGR	2163	Dynamics		3	
ENGR	2033	Electrical Circuits I		3	
ENGR	3003	Fluid Mechanics		3	
ENGR	3013	Thermodynamics		3	
ENGR	3023	Heat Transfer		3	
ENGR	3211	Thermal Fluid Science Lab		1	
ENGR	3043	Mechanics of Materials		3	
ENGR	3073	Engineering Economics		3	
ENGR	3083	Numerical Methods in Engineering		3	
ENGR	3101	Solid Mechanics Lab		1	
ENGR	3143	Manufacturing Processes		3	
ENGR	3163	Computer Aided Engineering Analysis		3	
ENGR	4013	Machine Design		3	
ENGR	4023	Senior Design Project I		3	
ENGR	4123	Senior Design Project II		3	
ENGR	4033	Instrumentation and Control Systems		3	
ENGR	4153	Heating, Ventilation, and Air Conditioning		3	
ENGR	4701	Work Experience Learning I		1	
ENGR	4992	Engineering Proficiency		2	
Other Required Courses (6 credit hours)					
ENGL	3023	Technical Writing		3	
Upper L	3XX3/4XX3	Upper Level Physics or Engineering electives		3	

Total SAU Credit Hours: 60

Total Credit Hours: 120