

# Navajo Technical University

Name: \_\_\_\_\_ ID#: \_\_\_\_\_

## Associate of Applied Science – Energy Systems (57 Credits)

The Energy Systems program teaches students the fundamentals of electricity, magnetism, photovoltaic electrical systems, and wind generation. This program emphasizes techniques to harness the earth's renewable energy sources. Students study energy related applications, design, installation, and renewable energy, they learn residential and commercial wiring, programming controls and electrical motors. Students also learn to apply the National Electrical Code (NEC) for safe and reliable electrical installations. Solar street lighting, photovoltaic electrical systems, wind turbine fabrication and installation, and collection of wind resources will also be covered in addition to stand-alone, grid-tied, and net-metering systems. Students explore science, mathematics, technology, and engineering while they study the transformation of mechanical energy to electrical energy. Moreover, the design and construction of photovoltaic, wind, and solar systems will enable students to supplement existing energy needs at home, the communities, and throughout the Navajo Nation.

GENERAL EDUCATION REQUIREMENTS		Credits	Prerequisites	Semester/Transfer	Grade
<b>English/Communication:</b>		<b>6</b>			
	ENGL1110		ENGL098		
	COMM1130 or COMM2120		ENGL1210 or 1110		
<b>Mathematics:</b>		<b>4</b>			
	MATH1220 or higher		MATH1215		
<b>Dine Studies:</b>		<b>3-4</b>			
<b>Natural or Physical Science:</b>		<b>4</b>			
<b>Humanities/ Social Science:</b>		<b>3</b>			
<b>Information Tech/Applied Computers:</b>		<b>3</b>			
	CMP 101 or higher				
<b>ENERGY SYSTEMS CORE REQUIREMENTS</b>					
<b>Semester ONE</b>		<b>Credits</b>			
ELC 101	Electrical Theory I	4	CT 103		
ERS 104	Electrical Mathematics	3	MTH 113		
<b>Semester TWO</b>					
ELC 111	Commercial Wiring	4	ELC101 and CT103		
ERS 102	Photovoltaic Theory/Design	3	ELC101 and MATH1220		
ENV 102	Environmental Science I	4	BIOL1110 or CHEM1120		
<b>Semester THREE</b>					
ELC 102	Electrical Theory Lab I	2	CT103		
ERS 106	Wind and Solar Power	3	ELC101 and MATH1220		
GIT 110	Geographic Information Systems I	3	MATH1220		
<b>Semester FOUR</b>					
ERS 114	National Electrical Code Exam Prep	3	ELC101		
ERS 115	Systems Control	4	ERS102 and ERS106		
<b>TOTAL REQUIRED CREDIT HOURS</b>		<b>57</b>			

	Signatures	Date
Student:		
Advisor:		
Registrar:		
Graduation Date:		

Updated 08/22/2019