

## ENERGY TECHNICAL SPECIALIST, A.A.S.

### Energy Technical Specialist, A.A.S.

#### Overview

This degree will prepare students for work as technicians in energy technology and convey the skills and knowledge necessary to be successful in the traditional and renewable energy fields.

#### Locations

Canby, Granite Falls, Online

In addition to 15 General Education credits, students enrolled in the Energy Technical Specialist program will study a 35-credit core curriculum providing a strong base in electrical, electronic and mechanical systems.

Students will select 10 credits in an area of specialization to complete their program of study from the following: Wind Energy, Ethanol, Biodiesel, Power Generation or Solar Energy.

The Energy Technical Specialist degree is offered through a partnership of multiple colleges in the Minnesota State Colleges and Universities system. Each of the partner colleges offer courses in their respective areas of expertise, and the participating colleges accept transfer courses from each other.

Students entering into the Energy Technical Specialist program should realize that the energy industry is highly specialized, and there are extraordinary employment characteristics associated in some areas of the power industry. Depending on the energy company, hiring managers may require a federal background check, drug and alcohol testing, and a physical if necessary for a position.

Course Number	Course Title	Credits
Required Courses		
RNEW 1107	Industrial Safety	2
RNEW 1300	Introduction to Traditional and Renewable Energy	3
ELCO 1110	AC/DC I	3
ELCO 1120	AC/DC II	3
RNEW 1100	Process Dynamics	3
RNEW 1115	Mechanical Fundamentals for Processing Control	3
MECH 2136	Program Logic Controls <b>or</b>	3
RNEW 2543	Program Logic Controls*	3
MECH 1120	Pneumatics Theory	3
MECH 1103	Basic Hydraulics	3
RNEW 1160	Instrumentation & Control	3
RNEW 1125	P & ID & PFD Reading	1
MECH 1115	Auto CAD <b>or</b>	2
ECAD 1023	Print Reading *	3
RNEW 1507	Basic Digital Electronics *	3
General Education Requirements		
MATH 1111	College Algebra	3
ENGL 1101	Composition I	3
PHYS 1100	Survey of Physics	3
NSCI 1100	Issues in the Environment	3
	<i>General Education Electives</i>	3
	<b>Specialty Emphasis (select 10 credits)</b>	
	<b>Wind Power</b>	
ELWT 1101	Introduction to Wind Energy	2

Course Number	Course Title	Credits
ELWT 1170	Wind Energy OSHA Standards & Climbing Lab	3
ELEC 2200	Low Voltage	2
ELEC 1230	Safety Principles and OSHA	1
ELEC 1235	Applied Electrical Calculations	2
	<b>BIO Fuel</b>	
RNEW 1101	Ethanol Process Fundamentals	2
RNEW 2120	Ethanol Separation Technology	2
RNEW 1102	Biodiesel Process Fundamentals	2
RNEW 1175	Industrial Water Treatment	2
RNEW 1195	Biodiesel Feedstocks Tech & Reg	2
	<b>Solar Power</b>	
SOLR 1020	Introduction to Solar Assessment	3
SOLR 1030	Solar Energy Construction Projects	2
SOLR 2020	Advanced Photovoltaic Systems	3
SOLR 2025	Photovoltaic Systems lab	2
	<b>Power Generation*</b>	
	<b>Total Credits</b>	<b>60</b>

**Notes:** \* Not a Minnesota West course or program.