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Renewable Energy Technology - CERT C

Semester-by-Semester Pathway

A Certificate is outlined coursework that is designed to prepare a student to head out into the workforce in a short timeframe or for career advancement. This certificate totals 48 credit hours. Consult with an advisor for more information. Not all courses are offered each semester.

( ) are Systemwide Transfer Courses

(★) are recommended for this degree pathway.

Semester 1 - Fall				
Complete	**Course ID**	**Course Title**	**Credit Hours**	**Notes**
Required Courses				
	AE100	AC/DC Circuits	4.00	Fall, Spring
	AE105	Industrial Wiring	3.00	Spring
	ME112	Heating System Fundamentals	3.00	Fall, Spring
	ME114	Renewable Energy Technology	3.00	
Electives				
		Semester Total:	**13.00**	

Semester 2 - Spring				
Complete	**Course ID**	**Course Title**	**Credit Hours**	**Notes**
Required Courses				
	AE150	Programmable Logic Controls (PLCs)	3.00	Fall, Spring Prereq: AE100 AC/DC Circuits.
	AE155	Electrical Maintenance	3.00	Fall, Spring Prereq: AE100 AC/DC Circuits.
	ME110	Fundamentals of Motor Controls	3.00	Fall, Spring Prereq: AE100 AC/DC Circuits.
	ME115	HVAC Fundamentals	4.00	Fall, Spring
Electives				
	Renewable Energy Technology Contextual Electives		3.00	
		Semester Total:	**16.00**	

Semester 3 - Fall				
Complete	**Course ID**	**Course Title**	**Credit Hours**	**Notes**
Required Courses				
	AE202	Actuator/Sensor Systems	3.00	Fall, Spring Prereq: AE155 Electrical Maintenance.
	ME118	Renewable Energy Technology Systems Analysis	4.00	Prereq: ME114 Renewable Energy Technology, and AE155 Electrical Maintenance, and ME115 HVAC Fundamentals.
Electives				

	Industrial Safety Electives	1.00	
	Renewable Energy Technology Contextual Electives	4.00	
	Semester Total:	**12.00**	

Semester 4 - Spring				
Complete	**Course ID**	**Course Title**	**Credit Hours**	**Notes**
Required Courses				
	ME106	Industrial Fluid Power	3.00	Fall, Spring
	ME124	Renewable Energy Technology Maintenance	4.00	Prereq: ME114 Renewable Energy Technology, and AE155 Electrical Maintenance, and ME115 HVAC Fundamentals.
Electives				
		Semester Total:	**7.00**	

Total Credits: 48.00

*Semester offerings reflect the current academic year.

Industrial Safety Electives			
Course ID	**Course Title**	**Credit Hours**	**Notes**
★ TR121	General Industrial Safety/OSHA10	1.00	Fall, Summer

Renewable Energy Technology Contextual Electives			
Course ID	**Course Title**	**Credit Hours**	**Notes**
AE200	Variable Frequency Drives and Electric Motors	3.00	Fall, Spring Prereq: ME110 Fundamentals of Motor Controls.
AE205	Intermediate Programmable Logic Controllers	3.00	Fall, Spring Prereq: AE150 Programmable Logic Controllers.
AE250	Distributed/Integrated Control Systems	3.00	Spring Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE252	Control Systems Development	3.00	Fall, Spring Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE255	Industrial Robotics	3.00	Fall, Spring Prereq: AE150 Programmable Logic Controllers.
DR100	Computer Aided Drafting I	3.00	Fall, Spring, Summer
DR101	Technical Drafting	3.00	Fall, Spring
DR102	Machine Drafting	5.00	Fall, Spring Prereq: DR100 Computer Aided Drafting I.
DR102L	Machine Drafting Lab	0.00	
DR107	Construction Drafting	3.00	Spring Prereq: DR100 Computer Aided Drafting I.
DR119	Parametric Modeling I: Autodesk Inventor	3.00	Fall, Spring
DR211	Computer Aided Drafting II	3.00	Fall, Spring Prereq: DR100 Computer Aided Drafting I.
DR212	Architectural Drafting I	3.00	Fall, Spring
DR212H	Honors Architectural Drafting I	3.00	
DR213	Architectural Drafting II	3.00	Spring Prereq: DR212 Architectural Drafting I.
DR214	Advanced CAD Applications	3.00	
DR215	Civil Drafting	3.00	Fall, Spring Prereq: DR100 Computer Aided Drafting I.
DR216	Computer Drafting Internship	3.00	Fall, Spring, Summer Prereq: DR119 Parametric Modeling I: Autodesk Inventor, or Departmental Consent, and DR212 Architectural Drafting I.
DR219	Parametric Modeling II: Autodesk Inventor	3.00	Fall Prereq: DR119 Parametric Modeling I: Autodesk Inventor.
DR220	Computer Drafting Capstone	3.00	Fall, Spring Prereq: DR119 Parametric Modeling I: Autodesk Inventor, or Departmental Consent, and DR212 Architectural Drafting I.
MC101	Introduction to Machine Technology	3.00	
MC104	Machine Technology Math	2.00	Fall, Spring
MC106	Basic Manufacturing Skills	8.00	
MC110	Bench Work	1.00	Fall
MC111	Print Reading	3.00	Fall, Spring
MC112	Quality Control and Inspection	1.00	Fall, Spring
MC113	Metallurgy	1.00	Spring Prereq: MC110 BenchWork with a Grade of C or higher, and MC115 Machining I with a Grade of C or higher.
MC114	Machine Tool Processes	1.00	Spring
MC115	Machining I	3.00	Fall

MC116	Machining II	3.00	Fall, Spring Prereq: MC110 BenchWork with a Grade of C or higher, and MC115 Machining I with a Grade of C or higher.
MC117	CNC Operations	3.00	Fall Prereq: MC115 Machining I with a Grade of C or higher, or Departmental Consent.
MC118	Safety (OSHA)	1.00	
MC202	Inspection and Quality Control	3.00	
MC204	Machine Practices I	3.00	Fall Prereq: Departmental Consent.
MC205	Machine Practices II	3.00	Spring Prereq: Departmental Consent, or MC204 Machine Practices I w/Grade of C or higher.
ME116	Commercial Refrigeration	4.00	Spring
ME117	Commercial Heating and Air Conditioning	4.00	Spring Prereq: ME115 HVAC Fundamentals, and EE203 Instruments & Measurements, or ME116 Commercial Refrigeration.
★ ME119	Solar PV Fundamentals	3.00	Fall, Spring
★ ME122	Solar PV Intermediate	3.00	Prereq: ME119 Solar PV Fundamentals.
ME125	Engineering Technology Internship	3.00	Fall
ME129	Mechanical Maintenance Skills	3.00	Fall, Spring
ME131	EPA 608	1.00	Fall
ME132	HVAC Load Calculations	1.00	Fall
ME133	HVAC Duct Sizing	1.00	Fall
ME134	HVAC Code Requirements	1.00	Fall
ME136	Solar PV Advanced	3.00	Prereq: ME119 Solar PV Fundamentals, and ME141 Solar Battery Fundamentals, and ME122 Solar PV Intermediate.
ME140	Low Pressure Boilers	3.00	Spring
★ ME141	Solar Battery Fundamentals	3.00	Prereq: ME119 Solar PV Fundamentals.
ME142	Solar Battery Intermediate	3.00	Prereq: ME119 Solar PV Fundamentals, and ME141 Solar Battery Fundamentals, and ME122 Solar PV Intermediate.
WE100	Basic Welding	3.00	Fall, Spring
WE101	Welding Safety	1.00	Fall
WE102	Welding Blueprint Reading	3.00	Fall, Spring
WE104	Shielded Metal Arc Welding	3.00	Fall
WE105	Shielded Metal Arc Welding II	3.00	Fall, Spring Prereq: WE104 SMAW w/Grade of C or Higher, or Departmental Consent.
WE106	Cutting Processes for Welding	2.00	Fall
WE110	Gas Metal Arc Welding	3.00	Fall, Spring
WE111	Gas Metal Arc Welding II	3.00	Fall, Spring Prereq: WE110 Gas Metal Arc Welding w/Grade of C or Higher.
WE112	Gas Tungsten Arc Welding	3.00	Fall, Spring
WE113	Gas Tungsten Arc Welding II	3.00	Spring Prereq: WE112 GTAW w/Grade of C or Higher.
WE128	Welding Metallurgy	2.00	Fall, Spring
WE209	Welding Fabrication Processes	4.00	Fall Prereq: Departmental Consent.