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Renewable Energy Technology - CERT C

Degree 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.

(T) are Systemwide Transfer Courses

(★) are recommended for this degree pathway.

Required Courses			
Course ID	Course Title	Credit Hours	Notes
AE100	AC/DC Circuits	4.00	Fall, Spring
AE105	Industrial Wiring	3.00	Spring
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.
AE202	Actuator/Sensor Systems	3.00	Spring Prereq: AE155 Electrical Maintenance.
ME106	Industrial Fluid Power	3.00	Fall, Spring
ME110	Fundamentals of Motor Controls	3.00	Fall, Spring Prereq: AE100 AC/DC Circuits.
ME112	Heating System Fundamentals	3.00	Fall, Spring
ME114	Renewable Energy Technology	3.00	
ME115	HVAC Fundamentals	4.00	Fall, Spring
ME118	Renewable Energy Technology Systems Analysis	4.00	Prereq: ME114 Renewable Energy Technology, and AE155 Electrical Maintenance, and ME115 HVAC Fundamentals.
ME124	Renewable Energy Technology Maintenance	4.00	Prereq: ME114 Renewable Energy Technology, and AE155 Electrical Maintenance, and ME115 HVAC Fundamentals.
Electives			
Course ID	Course Title	Credit Hours	Notes
Industrial Safety Electives		1.00	
ME108	Occupational Safety	2.00	
★ TR121	General Industrial Safety/OSHA10	1.00	Fall
Renewable Energy Technology Contextual Electives		7.00	
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.
AE208	National Electrical Code	3.00	
AE250	Distributed/Integrated Control Systems	3.00	Fall, Spring Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE252	Control Systems Development	3.00	Fall Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE255	Industrial Robotics	3.00	Spring

			Prereq: AE150 Programmable Logic Controllers.
DR100	Computer Aided Drafting I	3.00	Fall, Spring, Summer
DR101	Technical Drafting	3.00	Fall
DR102	Machine Drafting	5.00	Fall, Spring Prereq: DR100 Computer Aided Drafting I.
DR102L	Machine Drafting Lab	0.00	
DR107	Construction Drafting	3.00	Fall, 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 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	Fall, Spring Prereq: DR212 Architectural Drafting I.
DR214	Advanced CAD Applications	3.00	
DR215	Civil Drafting	3.00	Spring Prereq: DR100 Computer Aided Drafting I.
DR216	Computer Drafting Internship	3.00	Fall, Spring Prereq: DR119 Parametric Modeling I: Autodesk Inventor, or Departmental Consent, and DR212 Architectural Drafting I.
DR219	Parametric Modeling II: Autodesk Inventor	3.00	Fall, Spring 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	Fall, 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	Fall, 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, Spring Prereq: MC115 Machining I with a Grade of C or higher, or Departmental Consent.
MC118	Safety (OSHA)	1.00	
MC201	Machining Fundamentals III	2.00	
MC202	Inspection and Quality Control	3.00	
MC204	Machine Practices I	3.00	Fall Prereq: Departmental Consent.
MC205	Machine Practices II	3.00	Fall, Spring Prereq: Departmental Consent, or MC204 Machine Practices I w/Grade of C or higher.
ME107	Manufacturing Management	3.00	
ME108	Occupational Safety	2.00	
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, Spring
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
ME135	Industrial Seminar	1.00	
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.

Total Credits: 48.00