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Renewable Energy Technology

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.

( ) 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 2026, Spring 2027
AE105	Industrial Wiring	3.00	
AE150	Programmable Logic Controls (PLCs)	3.00	Fall 2026, Spring 2027 Prereq: AE100 AC/DC Circuits.
AE155	Electrical Maintenance	3.00	Fall 2026, Spring 2027 Prereq: AE100 AC/DC Circuits.
AE202	Actuator/Sensor Systems	3.00	Fall 2026, Spring 2027 Prereq: AE155 Electrical Maintenance.
ME106	Industrial Fluid Power	3.00	Fall 2026, Spring 2027
ME110	Fundamentals of Motor Controls	3.00	Fall 2026, Spring 2027 Prereq: AE100 AC/DC Circuits.
ME112	Heating System Fundamentals	3.00	Fall 2026, Spring 2027
ME114	Renewable Energy Technology	3.00	
ME115	HVAC Fundamentals	4.00	Fall 2026, Spring 2027
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**	
★ TR121	General Industrial Safety/OSHA10	1.00	Fall 2026
Renewable Energy Technology Contextual Electives		**7.00**	
AE200	Variable Frequency Drives and Electric Motors	3.00	Fall 2026, Spring 2027 Prereq: ME110 Fundamentals of Motor Controls.
AE205	Intermediate Programmable Logic Controllers	3.00	Fall 2026, Spring 2027 Prereq: AE150 Programmable Logic Controllers.
AE250	Distributed/Integrated Control Systems	3.00	Spring 2027 Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE252	Control Systems Development	3.00	Fall 2026, Spring 2027 Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE255	Industrial Robotics	3.00	Spring 2027 Prereq: AE150 Programmable Logic Controllers.
DR100	Computer Aided Drafting I	3.00	Fall 2026, Spring 2027, Summer 2027

DR101	Technical Drafting	3.00	Fall 2026, Spring 2027
DR102	Machine Drafting	5.00	Spring 2027 Prereq: DR100 Computer Aided Drafting I.
DR102L	Machine Drafting Lab	0.00	
DR107	Construction Drafting	3.00	Fall 2026, Spring 2027 Prereq: DR100 Computer Aided Drafting I.
DR119	Parametric Modeling I: Autodesk Inventor	3.00	Fall 2026, Spring 2027
DR211	Computer Aided Drafting II	3.00	Fall 2026 Prereq: DR100 Computer Aided Drafting I.
DR212	Architectural Drafting I	3.00	Fall 2026, Spring 2027
DR212H	Honors Architectural Drafting I	3.00	
DR213	Architectural Drafting II	3.00	Fall 2026, Spring 2027 Prereq: DR212 Architectural Drafting I.
DR214	Advanced CAD Applications	3.00	
DR215	Civil Drafting	3.00	Spring 2027 Prereq: DR100 Computer Aided Drafting I.
DR216	Computer Drafting Internship	3.00	Fall 2026, Spring 2027 Prereq: DR119 Parametric Modeling I: Autodesk Inventor, or Departmental Consent, and DR212 Architectural Drafting I.
DR219	Parametric Modeling II: Autodesk Inventor	3.00	Fall 2026, Spring 2027 Prereq: DR119 Parametric Modeling I: Autodesk Inventor.
DR220	Computer Drafting Capstone	3.00	Fall 2026, Spring 2027 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 2026, Spring 2027
MC106	Basic Manufacturing Skills	8.00	
MC110	Bench Work	1.00	Fall 2026
MC111	Print Reading	3.00	Fall 2026, Spring 2027
MC112	Quality Control and Inspection	1.00	Fall 2026, Spring 2027
MC113	Metallurgy	1.00	Spring 2027 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 2027
MC115	Machining I	3.00	Fall 2026
MC116	Machining II	3.00	Fall 2026, Spring 2027 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 2026 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 2026 Prereq: Departmental Consent.
MC205	Machine Practices II	3.00	Spring 2027 Prereq: Departmental Consent, or MC204 Machine Practices I w/Grade of C or higher.
ME116	Commercial Refrigeration	4.00	Spring 2027
ME117	Commercial Heating and Air Conditioning	4.00	Spring 2027 Prereq: ME115 HVAC Fundamentals, or ME116 Commercial Refrigeration.
★ ME119	Solar PV Fundamentals	3.00	
★ ME122	Solar PV Intermediate	3.00	Prereq: ME119 Solar PV Fundamentals.
ME125	Engineering Technology Internship	3.00	
ME129	Mechanical Maintenance Skills	3.00	Fall 2026, Spring 2027
ME131	EPA 608	1.00	Fall 2026

ME132	HVAC Load Calculations	1.00	Fall 2026
ME133	HVAC Duct Sizing	1.00	Fall 2026
ME134	HVAC Code Requirements	1.00	Fall 2026
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 2027
★ 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 2026, Spring 2027
WE101	Welding Safety	1.00	Fall 2026
WE102	Welding Blueprint Reading	3.00	Fall 2026, Spring 2027
WE104	Shielded Metal Arc Welding	3.00	Fall 2026, Spring 2027
WE105	Shielded Metal Arc Welding II	3.00	Fall 2026, Spring 2027 Prereq: WE104 SMAW w/Grade of C or Higher, or Departmental Consent.
WE106	Cutting Processes for Welding	2.00	Fall 2026
WE110	Gas Metal Arc Welding	3.00	Fall 2026, Spring 2027
WE111	Gas Metal Arc Welding II	3.00	Fall 2026, Spring 2027 Prereq: WE110 Gas Metal Arc Welding w/Grade of C or Higher.
WE112	Gas Tungsten Arc Welding	3.00	Fall 2026, Spring 2027
WE113	Gas Tungsten Arc Welding II	3.00	Spring 2027 Prereq: WE112 GTAW w/Grade of C or Higher.
WE128	Welding Metallurgy	2.00	Fall 2026, Spring 2027
WE209	Welding Fabrication Processes	4.00	Fall 2026 Prereq: Departmental Consent.

Total Credits: **48.00**