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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.

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

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

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| 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 2026   |
| ★ 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 | Spring 2026, Fall 2026  |
| WE101   | Welding Safety                | 1.00 | Fall 2026   |
| WE102   | Welding Blueprint Reading     | 3.00 | Spring 2026, Fall 2026  |
| WE104   | Shielded Metal Arc Welding    | 3.00 | Fall 2026   |
| WE105   | Shielded Metal Arc Welding II | 3.00 | Spring 2026, Fall 2026<br>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 | Spring 2026, Fall 2026  |
| WE111   | Gas Metal Arc Welding II      | 3.00 | Spring 2026, Fall 2026<br>Prereq: WE110 Gas Metal Arc Welding w/Grade of C or Higher.                       |
| WE112   | Gas Tungsten Arc Welding      | 3.00 | Spring 2026, Fall 2026  |
| WE113   | Gas Tungsten Arc Welding II   | 3.00 | Spring 2026<br>Prereq: WE112 GTAW w/Grade of C or Higher.   |
| WE128   | Welding Metallurgy            | 2.00 | Spring 2026, Fall 2026  |
| WE209   | Welding Fabrication Processes | 4.00 | Fall 2026<br>Prereq: Departmental Consent.  |

**Total Credits: 48.00**