



Applied Science and Engineering Technology Division

2019-2020

Renewable energy is one of the fastest growing industries in Michigan and the U.S. Michigan is poised to become a major force in renewable energy technologies, with jobs ranging from entry level assembly, production and installation to technician-level maintenance, support and operation. Career opportunities within the field are also emerging in technical sales and marketing, office and business management, and engineering design. Renewable energy jobs require special knowledge and training that is just becoming available because the industry is so new and continues to evolve so rapidly. The job market is made up of both large multi-national companies that typically require apprenticeships or formal degrees, as well as a significant number of smaller family-owned and operated businesses and service providers. These smaller contractors represent opportunities for people who have acquired the proper skills to find useful work at reasonable pay.

The renewable energy field is expected to create major job growth during the next several years, and demand for trained qualified individuals is expected to remain high. These are well-paying technical jobs that cannot be exported overseas.

MCCC offers several paths into a renewable energy career:

1. Individual specialty classes for the small business owner or skilled tradesperson wishing to add specific skills to an existing business or career.
2. Certificates in wind energy and solar energy showing basic, entry-level knowledge. MCCC recognizes that many employers place value on



certificates which show specialized education and training in a particular job skill. These certificates concentrate on the basic core courses with skill development and job upgrading being the primary objectives. Each certificate can be completed in just two or three semesters. And, since the basic core courses are the same, it is possible to complete both certificates with some additional course work.

3. A formal two-year associate of applied science degree in electronics with a specialization in renewable energy is planned for the near future.

Certificate Program: Solar Energy

This certificate concentrates on the basic core competencies required to prepare the student for entry-level positions in the solar energy field.

Career Opportunities

Graduates of this program will be prepared for entry-level employment in the following areas:

- Associate sales technician
- Energy systems technician (wind and solar)
- Renewable energy technician
- Solar photovoltaic technician
- Solar service technician
- Site survey technician (solar)

Required Courses

Credits

| | |
|---|---|
| CONM 101 (Materials of Construction) | 3 |
| ELEC 125 (Fundamentals of Electricity) | 3 |
| ELEC 127 (AC/DC Motors) | 3 |
| ELEC 132 (Electronics I) | 4 |
| ELEC 156 (Introduction to Renewable Energy) | 3 |
| ELEC 157 (Introduction to Solar Energy) | 3 |
| ELEC 214 (National Electric Code) | 2 |
| ELEC 257 (Applied Solar Photovoltaics) | 3 |
| MATH 119 (Elementary Technical Mathematics) | 2 |

Total Certificate Requirements **26 credits**
Total Certificate Cost **34 minimum billable contact hours**

Certificate Program: Wind Energy

This certificate concentrates on the basic core competencies required to prepare the student for entry-level positions in the wind renewable energy field.

Career Opportunities

Graduates of this program will be prepared for entry-level employment in the following areas:

- Energy Systems Technician (Wind & Solar)
- Senior buyer
- Senior property agent
- Senior risk management analyst
- Site prospector
- Site supervisor
- Wind data analyst
- Wind energy forecasting and resource assessment
- Wind field technician
- Wind plant administrator
- Wind plant monitoring technician



Required Courses

Credits

| | |
|---|---|
| CONM 101 (Materials of Construction) | 3 |
| ELEC 125 (Fundamentals of Electricity) | 3 |
| ELEC 127 (AC/DC Motors) | 3 |
| ELEC 132 (Electronics I) | 4 |
| ELEC 156 (Introduction to Renewable Energy) | 3 |
| ELEC 158 (Introduction to Wind Energy) | 3 |
| ELEC 214 (National Electric Code) | 2 |
| MATH 119 (Elementary Technical Mathematics) | 2 |

Total Certificate Requirements **23 credits**
Total Certificate Cost **30 minimum billable contact hours**

Information contained within this document is subject to change. This program sheet may not be considered as an agreement or contract.

Monroe County Community College is an equal opportunity institution and adheres to a policy that no qualified person shall be discriminated against because of race, color, religion, national origin or ancestry, age, gender, marital status, disability, genetic information, sexual orientation, gender identity/expression, height, weight or veteran's status in any program or activity for which it is responsible. If you have a disability and need special accommodations, please contact the Learning Assistance Laboratory (734.384.4167) at least 10 business days prior to the first class session to begin the accommodation process.

The college's Equal Opportunity Officer and Title IX and Section 504/ADA Coordinator and Compliance Officer for discrimination and sexual harassment is the Director of Human Resources,

Monroe County Community College, 1555 South Raisinville Road, Monroe, Michigan 48161, 734.384.4245.

Monroe County Community College is accredited by the Higher Learning Commission, www.hlcommission.org, 800.621.7440.

Main Campus

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Whitman Center

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Admissions: 734-384-4104