

RENEWABLE ENERGY

Applied Science and Engineering Technology Division

Web Site: <http://www.monroecc.edu/aset/renewableenergy.htm>

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:

- Crop and slab engineer
- Crystal growing engineer
- Laser operations technician
- Logistics manager
- Module manufacturing engineer
- Production planner/scheduler
- Quality insurance manager
- Silicon crystal grower
- Wire technology engineer

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

GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the solar photovoltaic energy certificate is available on our website at [https://www.monroecc.edu/consumer/gainfulemp/SOLPV.CERT%20-%20GE%20Disclosure%20\(2017\)/15.0505-Gedt.html](https://www.monroecc.edu/consumer/gainfulemp/SOLPV.CERT%20-%20GE%20Disclosure%20(2017)/15.0505-Gedt.html).

