FUNDAMENTALS OF RENEWABLE ENERGY MICROCREDENTIAL

Code	Title	Credits
RENG 101	Basic Elec Renewable Energy	4
RENG 102	Renewable Energy Resources	3
RENG 150	Analysis Techniques for Renewable Energy	3
Total Credits		10

Major Code: MREF

New York's Clean Energy Industry Needs You! The renewable energy industry in New York is growing—and it needs skilled professionals. The *Fundamentals of Renewable Energy* microcredential at SUNY Morrisville is a great opportunity for anyone looking to start a career in clean energy or transition from another field.

This program offers hands-on learning at SUNY Morrisville's brand new \$16 million Agricultural and Clean Energy Technology (ACET) Center, featuring state-of-the-art labs in wind, solar, hydro, biofuels, and thermal energy.

The microcredential begins with a strong foundation in electrical fundamentals. You'll learn about DC and AC circuits, Ohm's Law, Power Law, and essential concepts in electrical measurement, energy conservation, and renewable energy systems. You'll also build skills in data analysis, troubleshooting, and problem-solving.

Who is this for?

- Career changers with backgrounds in business, sales, or project management can use this program to pursue roles like solar consultant, energy analyst, or project developer.
- Career starters can apply for entry-level positions such as solar installer, weatherization technician, or field technician (in areas like heat pumps or wind power).

Math skills are important. At minimum, one high school-level applied mathematics course is required. A college-level course in algebra or trigonometry is strongly recommended. Work experience may also count —contact us to learn more about advanced standing.

Whether you're starting fresh or shifting your focus, this microcredential will prepare you for further study and real opportunities in New York's clean energy workforce.

Upon successful completion of this microcredential, students will be able to:

- Exhibit all-rounded exposure to energy resources and ecosystem comprising of fossil fuels and renewables, their merits and concerns.
- Describe energy usage and consumption metrics including unit conversions.
- Explain basic electricity concepts of voltage, current, power, energy, and circuits etc. with ability to analyze electrical circuits applying relevant theorems like Ohm's law, Power Law etc.
- Exhibit hands-on ability of using electrical measurement and control equipment including digital multimeters, oscilloscope, relays and transformers.
- Apply fundamental mathematical and statistical concepts and tools to solve common renewable energy problems

A total of 10 credits is required for completion of the microcredential. Students will receive a digital badge upon completion.