

### Process for Admission

Whether you are planning to study full- or part-time, you must submit an admission application (free of charge) to the Student Records Office. An online application is available at [www.mccc.edu](http://www.mccc.edu). A print version may be requested by calling the Admissions Office at 609-570-3795. Applications submitted by regular mail should be sent to: Student Records Office, Mercer County Community College, P.O. Box B, Trenton, NJ 08690. Students must also contact their high school or previous/current college and request that official transcripts be sent to the same address.

Students may also be required to take an academic placement test (free of charge) in English and/or math. The two-hour test is self-administered and does not affect admission to the college. Certain scores on the SAT/ACT or your transcript from another college may exempt you from portions of the test.

After taking the placement test, students meet with an advisor to select their courses and then register for classes.

### Approved for Veterans

MCCC is an approved institution for veterans' training under various GI bills. For more information, call 609-570-3240.

### Contact Us

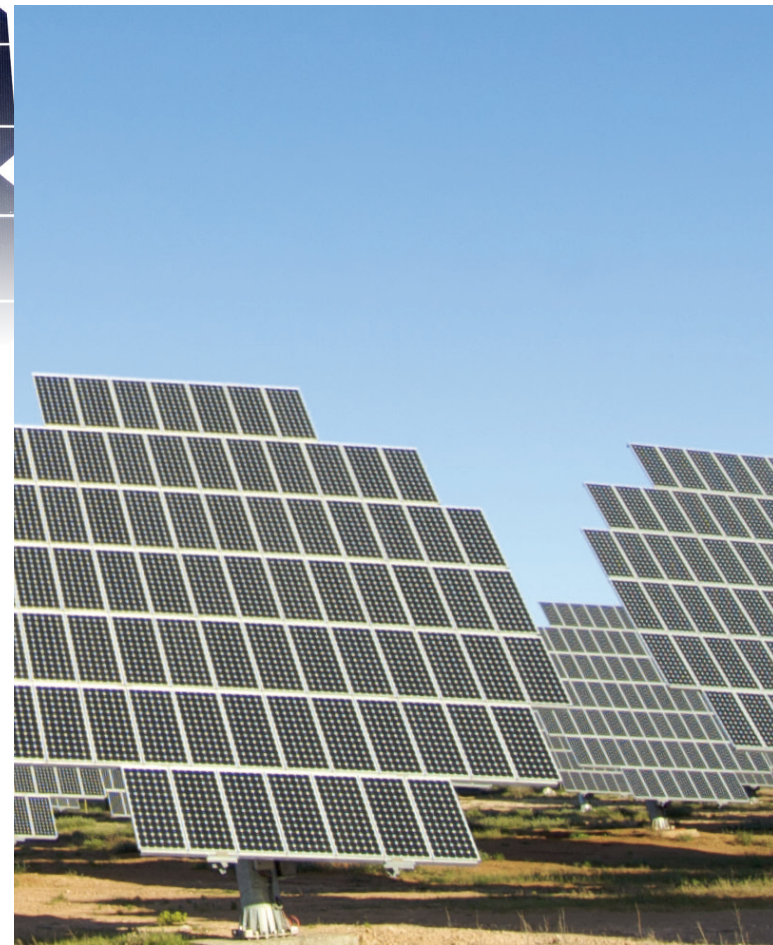
We encourage you to visit the college and meet with faculty and staff. To arrange a campus tour or request additional information, contact the Admissions Office on either campus.

609-570-3795

(Monday-Friday, 9 a.m. - 5 p.m.)

[www.mccc.edu](http://www.mccc.edu)

For more information, contact Program Coordinator and Architecture Professor Garry Perryman by emailing [perryg@mccc.edu](mailto:perryg@mccc.edu) or calling 609-570-3357.



## Are You Ready For A New Era In Energy Production?

### SOLAR/ENERGY TECHNOLOGY Certificate of Proficiency

Get **Career  
Solutions** at Mercer



### Program Overview

### Solar/Energy Technology Certificate of Proficiency

Current global energy initiatives reflect a shift towards clean and efficient methods of producing energy. Workforce development indicators show job growth in areas related to energy efficiency and sustainability in both new and existing building structures.

MCCC's Solar/Energy Technology certificate prepares students to enter these fields by providing a foundation in construction basics, a comprehensive introduction to a wide range of energy sources, and training in areas of installation and auditing.

Graduates of the 31-credit program will have a working knowledge of renewable energy systems, building construction systems, basic circuitry and electronic components. Hands-on training will focus on metalworking skills to fabricate electronic chassis and the application of energy auditing and weatherization processes to existing structures. Students will also develop skills in solar panel installation applications. The program includes a two-credit course on job searches, resume writing and interview skills.

Students who complete the certificate program may apply some of their credits to Mercer's A.A.S. degree programs in Energy Utility Technology and Electronics Engineering Technology.



### Who Should Study Solar/Energy Technology?

The program is designed for students with an interest in architectural building technology and those already in the field who seek to update their skills, as well as those studying or working in heating, refrigeration and air conditioning. Past work experience and prior college credits will be evaluated on an individual basis for possible credits towards completion of the certificate.

Graduates will be prepared for entry-level positions in energy auditing, weatherization, basic circuitry and electronics, solar installation and building construction.

### Successful graduates of the program will be able to:

- Understand available renewable energy systems;
- Demonstrate knowledge of basic circuitry and electronic components;
- Use hand tools and apply metalworking skills to fabricate electronic chassis;
- Comprehend building construction systems;
- Apply energy auditing and weatherization processes to existing structures;
- Demonstrate specific skills related to solar installation applications.



## Course Descriptions

### EET 130 – Fundamentals of Electronics

Introduction to DC and AC circuits, electromagnetic devices, electronic components, and analog and digital circuits. For non-electronics majors. *2 lecture/2 laboratory hours*

### ENG 101 – English Composition I

With focus on close reading and critical thinking, emphasizes development of skills required for effective written communication. In conjunction with careful analysis of varied readings, students develop carefully thought-out essays. Short library paper required. *3 lecture hours*

### IST 101 – Computer Concepts with Applications

Addresses hardware, software, the Internet, multimedia, and security and ethics issues. Lab includes exposure to Windows as well as word processing, database, spreadsheet, and presentation applications. *2 lecture/2 laboratory hours*

### MAT 110 – Elementary Technical Mathematics (or higher-level math course)

Designed for specific technology programs. Topics in arithmetic, geometry, algebra, and elementary trigonometry are covered with emphasis on their application to technology. *3 lecture hours*

### UTI 111 – Alternative Energy Sources

Introduction to electrical energy generation and its impact on the environment and society. Various energy alternatives such as solar, wind, geothermal, ocean and fuel cells are examined, along with the positive and negative aspects of each. *3 lecture hours*

### ARC 134 – Building Construction Systems

Introductory survey of general concepts of sustainable design as they relate to building construction. Includes site, structural, environmental, envelope systems, materials and building systems. Focus is primarily on low-rise wood and steel structures. Fall offering. *3 lecture hours*

### EET 140 – Electronic Construction

Teaches the use of hand tools, drilling and other metal-working methods as well as correct soldering and repair techniques. Students apply these skills to chassis construction and wiring, and also gain experience in working with printed circuit boards. *1 lecture/3 laboratory hours*

### UTI 112 – Energy Auditing and Weatherization

Examination of the electric generation process, power plant systems and functions. Topics include an overview of generating site facilities, power company philosophy, interdepartmental responsibilities, communication practices, and health, industrial and environmental safety. Emphasizes skills necessary for safe power plant operation. *5 lecture/2 laboratory hours*

### UTI 113 – Solar Installation Technology

Introduction to the Solar PV industry. Includes system types and efficiencies, solar site evaluation, differences between grid intertie and off-grid systems and associated components. Students use materials and tools common in solar panel installation. Safety on the job is emphasized. *2 lecture/2 laboratory hours*

**Acceptable Technical Elective** (3 credits) Select from:

**HRA 101 – Principles of Refrigeration /  
Air Conditioning I**

**UTI 102 – Fundamentals of Gas Combustion**

**103 – Fundamentals of Power Alternating Current**

or other course by coordinator approval.

### CMN 123 – Job Success: The Search, Resume and Interview

Covers the job search cycle and activities for each phase of the job search process. Students practice success strategies and develop practical solutions to be used in their career management plan. *2 lecture hours*

## Course Requirements



## Solar/Energy Technology

### Certificate of Proficiency

#### Certificate Curriculum

Code	Course (lecture/lab hours)	Credits
EET 130	Fundamentals of Electronics (2/2)	3
ENG 101	English Composition I (3/0)	3
IST 101	Computer Concepts with Applications (2/2)	3
MAT 110	Elementary Technical Mathematics (3/0) <sup>1</sup>	3
UTI 111	Alternative Energy Sources (3/0)	3
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ARC 134	Building Construction Systems (3/0)	3
EET 140	Electronic Construction (1/3)	2
UTI 112	Energy Auditing and Weatherization (2/2)	3
UTI 113	Solar Installation Technology (2/2)	3
— —	Technical elective <sup>2</sup>	3
		<hr/>
CMN 123	Job Success: The Search, Resume and Interview (2/0)	2
		<hr/>
		31

<sup>1</sup> Or higher-level mathematics course.

<sup>2</sup> Select from HRA 101; UTI 102 or 103; or other course by coordinator approval.

## Why Study “Green” Technology?

- The nonprofit American Solar Energy Society estimates there are more than nine million jobs tied to renewable energy and energy efficiency, and it forecasts 37 million such jobs in the United States by 2030.
- The U.S. government’s 2009 economic stimulus bill includes more than \$100 billion for renewable energy, home weatherization, energy efficiency and power-grid upgrades. Projects financed through the bill’s grants and loan guarantees are expected to create hundreds of thousands of jobs.
- Community colleges are at the forefront of this growing momentum for action on climate change, sustainability, and green workforce development. (From “Going Green: The Vital Role of Community Colleges in Building a Sustainable Future and Green Workforce” by Mindy Feldbaum with Hollyce States)

