

Want to learn about alternative energy sources that are readily available and affordable, both for your home, business and transportation? Want to save money and learn how to make your home more energy efficient? Want to increase your advantage in the marketplace by acquiring new skills? Want to learn about the emerging fields of energy efficiency and solar energy? Then register now for these exciting courses at Cape Cod Community College.



Register on-line: [www.capecod.edu](http://www.capecod.edu)  
by phone: 1-508-375-4012  
by mail: **Cape Cod Community College**  
Registration Office  
2240 Iyannough Road  
West Barnstable, MA 02668

For more information about these courses or **Environmental Technology Program**, please contact Stephanie Brady • 1-508-362-2131 Ext. 4468  
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Cape Cod  
Community College



Renewable  
Energy  
Courses



## Current Course Descriptions

### ENV 170. Renewable Energy Sources

ENV 170 provides an overview of renewable energies including solar energy, wind power, hydropower, biomass, hydrogen and fuel cells. Students will learn basic principles of each technology for new and existing construction. They will study government regulations, analyze renewable energy systems, calculate savings, backup energy, and financing options. They will investigate the potentials of renewable energy technologies to help solve environmental and economic problems within society. *Prerequisite: MAT020 and ENL020 and ENL 050; or satisfactory basic skills assessment scores/3 credits.*

### ENV 171. Energy Efficiency and Conservation

ENV 171 provides students with the information to identify and explain all of the energy efficiency/conservation methods available for energy use reduction. Energy-consuming facilities, both domestic and commercial, will be analyzed by the students for energy efficiency opportunities. The student shall calculate energy savings and environmental impacts for most energy efficiency methods in order to identify and assess energy conservation opportunities. In addition, the student shall demonstrate the appropriate usage of energy monitoring and measuring equipment commonly used by energy specialists and energy auditors. *Prerequisite: MAT020 and ENL020 and ENL 050; or satisfactory basic skills assessment scores/3 credits.*

### ENV 173. Introduction to Solar Energy

ENV 173 provides an introduction to solar energy. This course will give students an understanding of our solar energy resource and how it can be utilized for a variety of energy demand applications, including passive solar thermal, active solar thermal, and photovoltaics. In addition, this course will give students an understanding of the economic development potential that solar energy technologies can provide to individuals, businesses, and municipalities and train individuals to conduct solar energy site assessments and to promote the use of solar energy in residential, commercial, and municipal facilities. *Prerequisite: MAT020 and ENL020 and ENL 050; or satisfactory basic skills assessment scores/3 credits.*

### ENV 177. Introduction to Wind Energy

ENV 177 provides an in-depth introduction to wind power as a sustainable form of energy. It examines the history, current applications, and future of wind power. Students gain a basic understanding of the fundamental science behind harnessing

useable energy from the wind. The course looks at the process for siting, developing, constructing, operating, and maintaining wind energy projects of different scales – from home and small commercial, to municipal and utility scale. *Prerequisite: MAT020 and ENL020 and ENL 050; or satisfactory basic skills assessment scores/3 credits.*

### ENV 178. Photovoltaic Installation

ENV 178 introduces students to the fundamentals of photovoltaic (PV) system design and installation procedures. The class will be divided between indoor classroom activities and outdoor fieldwork that will involve the installation of a residential scale PV system. Students who complete this course, and the pre-requisite ENV 173, will be provided with the option to take the North American Board of Certified Energy Practitioners' Entry Level Certificate of Knowledge of PV Systems Exam for an additional fee; the passing of which will demonstrate that the student "has basic knowledge of photovoltaic systems suitable for a supervised, entry level position with a dealer/installer or other PV industry company." *Prerequisite: ENV 173 or WET 003/3 credits.*

### ENV 179 . Solar Thermal Installation

ENV 179 course introduces students to the fundamentals of solar thermal system design and installation procedures. The class will be divided between indoor classroom activities and outdoor fieldwork that will involve the installation of a residential scale solar thermal system. This course, along with its pre-requisite ENV 173, is approved by the North American Board of Certified Energy Practitioners (NABCEP) and counts towards the training requirements for becoming a certified Solar Thermal System Installer (additional field experience is required to be eligible for certification). *Prerequisite: ENV 173 or WET 002/3 credits.*

### ENV 180. Small Wind Installation

ENV 180 introduces students to the fundamentals of small wind-electric system design and installation procedures. The class will be divided between indoor classroom activities and outdoor fieldwork that will involve the installation of a residential scale wind system. This course, along with its pre-requisite ENV 177, is based on the Task Analysis for the North American Board of Certified Energy Practitioners (NABCEP) Small Wind Energy Systems Installer Certification. *Prerequisite: ENV 177/3 credits.*



## Renewable Energy Program Certificates

### Photovoltaic Technology Certificate

- Renewable Energy Sources
- Energy Efficiency and Conservation Methods
- Introduction to Solar Energy
- Photovoltaic Installation
- Internship (*recommended but not required*)

### Solar Thermal Technology Certificate

- Renewable Energy Sources
- Energy Efficiency and Conservation Methods
- Introduction to Solar Energy
- Solar Thermal Installation
- Internship (*recommended but not required*)

### Small Wind Technology Certificate

- Renewable Energy Sources
- Energy Efficiency and Conservation
- Introduction to Wind Energy
- Small Wind Installation
- Internship (*recommended but not required*)

### NON-DISCRIMINATION POLICY STATEMENT

Cape Cod Community College policy prohibits discrimination in education, employment, and services on the basis of race, ethnicity, religion, sex, marital status, national origin, ancestry, sexual orientation, or disability. For policies on Affirmative Action, Diversity and Sexual Harassment, see the Affirmative Action Statement.