

# Renewable Energy Technology Program

*Division of Engineering Technologies and Computer Sciences – Curriculum Code: 3012  
Will Earn Upon Program Completion: Certificate in Renewable Energy Technology*

## *Why major in Renewable Energy Technology?*

This certificate provides the knowledge and skills required for positions involving the integration of renewable energy applications in a variety of business and industrial environments. The certificate focuses on a “holistic” approach, emphasizing the importance of scientific principles coupled with industrial processes, professional proficiencies, and practical laboratory experiences.

## *If I major in Renewable Energy technology, can I transfer to an upper-division college or university?*

This major is job-oriented and designed for entrance to industry.

## *Are there any requirements I must satisfy before I start taking courses in my major?*

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in English, reading and/or mathematics.

## *How long will it take for me to complete this certificate?*

If you do not need developmental coursework and you attend full time, you can complete the certificate in two semesters. Part-time students can complete the program in two years.

## *Where should I direct specific questions about this program?*

Contact the Division at (973) 877-4400.

## *Upon completion of this program, graduates will be able to:*

- ◆ Describe the need for alternative sources of energy.
- ◆ Demonstrate ability to use the internet to research current alternatives to fossil fuels.
- ◆ Create a report detailing the impact of fossil fuels on the environment and society.
- ◆ Demonstrate the knowledge of alternate energy sources.
- ◆ Acquire a working knowledge of the energy auditing process.
- ◆ Identify and explain the necessary assessment tools, energy audit software and procedural concepts regarding energy auditing.
- ◆ Solve basic heating and cooling load problems, including solving R-Value and quantifying overall building thermal performance.
- ◆ Understand the basic principles of Photovoltaic systems.
- ◆ Work safely with photovoltaic systems
- ◆ Conduct a site assessment for solar PV installation
- ◆ Select an appropriate systems design
- ◆ Adapt the design for mechanical / electrical design
- ◆ Install PV System and components at the site

## Renewable Energy Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:	RECOMMENDED SEQUENCE OF COURSES:*
<b>(11 credits)</b>	<b>First Semester</b>
<b>Communications (3 credits)</b>	ENG 101 College Composition I 3
ENG 101 College Composition I 3	MTH 100 Intro. to College Mathematics 4
<b>Math (8 credits)</b>	ENS 201 Principles of Sustainability 3
MTH 100 Intro. to College Mathematics 4	UTI 111 Alternate Energy Sources 3
MTH 113 College Algebra with Trigonometry 4	<b>Second Semester</b>
<b>MAJOR COURSE REQUIREMENTS</b>	MTH 113 College Algebra with Trigonometry 4
<b>(9 credits)</b>	ELC 115 Electric Circuits: DC & AC 4
UTI 111 Alternate Energy Sources 3	UTI 112 Energy Auditing and Weatherization 3
UTI 112 Energy Auditing and Weatherization 3	UTI 113 Solar Installation Technology 3
UTI 113 Solar Installation Technology 3	
<b>ADDITIONAL COURSE REQUIREMENTS</b>	
<b>(7 credits)</b>	
ELC 115 Electric Circuits: DC & AC 4	
ENS 201 Principles of Sustainability 3	
<b>Total Credits required for Certificate</b> 27	

\*NOTE: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section.