

# Environmental Technology Certificate

## Wastewater Management

The Environmental Technology certificates are a collaborative partnership among Cape Cod Community College, Massachusetts Maritime Academy and University of Massachusetts - Dartmouth, for persons seeking to acquire skills and knowledge in eight environmental fields: Coastal Zone Management, Environmental Site Assessment, Geographic Information Systems, Photovoltaic Technology, Small Wind Technology, Solar Thermal Technology, Wastewater Management, and Water Supply. Students may need to travel to each of the three schools in order to complete all the courses in any certificate program. Students are encouraged to enroll in ENV260 Cooperative Work Experience/Internship.

| Course #      | Course Title  | Credits | Prerequisites  | Semester Offered     | Semester Taken | Grade Earned |
|---------------|---|---------|--|----------------------|----------------|--------------|
| ENV118        | Intro to Environmental Science                                  | 4       | MAT020, ENL020 & ENL050 or satisfactory basic skills assessment scores | Fall, Spring, Summer |                |              |
| ENV140        | Into to Water: Concepts & Technologies                          | 3       | None   | Fall                 |                |              |
| ENV158        | Occupational Health & Safety through Hazardous Waste Management | 3       | None   | Spring               |                |              |
| ENV145        | Wastewater Treatment Plant Operation                            | 4       | ENV118 & ENV140  | Varies               |                |              |
| ENV260        | Internship (recommended)  | 3       | ENV118 or ENV170 & permission of instructor                            | Fall, Spring, Summer |                |              |
| Total Credits |   | 14/17   |  |                      |                |              |

### Overview

This certificate provides training for students in wastewater collection and treatment systems. Wastewater chemistry, toxicology and microbiology are covered teaching students the basic processes and common parameters used to measure wastewater at the various stages of treatment. The courses cover the mechanical operation of the systems, an introduction to computer data gathering and process control, and the laws and regulations covering wastewater.

### Career Outlook

Completion of the Wastewater Management Certificate prepares a student to obtain a state wastewater license and secure a position at a municipal wastewater treatment plant, a small package plant, or an on-site system. The Department of Labor predicts that employment of wastewater treatment plant and system operators is expected to increase 9 to 17 percent for all occupations through the year 2014.

Local governments are the largest employers of wastewater treatment plant and system operators. However, Federal certification requirements have increased utilities' reliance on private firms specializing in the operation and management of wastewater treatment facilities. As a result, employment in privately owned facilities will grow faster than the average.

This certificate is appropriate for students with advanced degrees that are looking for specific technical training.

### Program Outcomes:

Upon completion of the Wastewater Management Certificate, students are able to:

- Describe the concepts and have the ability to operate, maintain and/or manage many of the waste streams that currently exist.
- Sit for state operator's municipal and/or industrial wastewater treatment licenses.