

## ENVIRONMENTAL TECHNOLOGY

### Degrees:

**Diploma:** Environmental Technician 63

**Certificates:**

|                                      |    |
|--------------------------------------|----|
| Hazardous Material Technician        | 37 |
| Waste Processing Attendant           | 21 |
| Wastewater Treatment Plant Attendant | 20 |
| Wastewater Treatment Plant Operator  | 36 |
| Water Treatment Plant Attendant      | 20 |
| Water Treatment Plant Operator       | 36 |

### Description:

The environmental technology program has been developed in concert with various regulatory agencies, state universities and businesses and industries. Environmental Technicians conduct tests and field investigations to obtain data for use by environmental, engineering, and scientific personnel in determining sources and methods of controlling pollutants in air, water and soil, by utilizing knowledge of agriculture, chemistry, meteorology, engineering principles and applied technologies.

### Competencies:

Upon completion of the program, the graduate can:

1. Perform sampling and/or basic analysis of air, water, soil and other environments.
2. Demonstrate the proper handling of laboratory equipment and supplies.
3. Demonstrate an understanding of the characteristics and sources of various pollutants and their effects on living and nonliving things.
4. Demonstrate an understanding of the relationships between natural resources and pollution.
5. Demonstrate an understanding of the relationships between pollution and community wellness.
6. Demonstrate an understanding of the principles of epidemiology and their impact on community health.
7. Demonstrate an understanding of prevention and control of communicable disease.
8. Demonstrate an understanding of the sanitary principles and control methods involved in various community sanitation activities.
9. Utilize aseptic technique.
10. Demonstrate an understanding of the principles and methods of water supply development and protection.
11. Demonstrate an understanding in the techniques used in the measurement of wastewater flow and collection of samples.
12. Analyze current technology related to solid waste disposal procedures and state when each procedure could be used effectively.
13. Demonstrate a basic understanding of the meaning, value and use of statistics as is applicable to sampling and analyzing various environmental parameters.
14. Apply knowledge of state and federal environmental legislation and agencies.
15. Perform decision-making and management skills.
16. Communicate effectively using standard written English;
17. Communicate in a clear oral and non-verbal fashion and employ active listening skills;
18. Demonstrate basic skills in computer operations and/or software applications;
19. Organize, analyze, and make information useful by employing mathematics;
20. Demonstrate an awareness of one's interaction with the biological/physical environment;
21. Demonstrate an awareness of self as an individual, as a member of a multicultural society, and/or as a member of the world community;
22. Recognize the impact of decisive ideas and events in human heritage;
23. Develop and perform basic search strategies and access information in a variety of formats, print and non-print;
24. Analyze, summarize, and interpret a variety of reading materials;
25. Think critically and make connections in learning across the disciplines;
26. Elaborate upon knowledge to create new thoughts, processes and/or products; and,
27. Demonstrate an awareness of ethical considerations in making value choices.

**Outlines:**

**Diploma  
Environmental Technician  
(Offered at CKT)**

|     |     |  |     |
|-----|-----|--|-----|
| CPU | 100 | Introduction to Computers                | 3   |
| ENV | 100 | Environmental Mathematics                | 3   |
| ENV | 110 | Introduction to Environmental Technology | 4   |
| ENV | 111 | Environmental Sampling Techniques Lab    | 2   |
| ENV | 120 | Environmental Chemistry                  | 3   |
| ENV | 121 | Environmental Chemistry Lab              | 1   |
| ENV | 130 | Environmental Physics                    | 3   |
| ENV | 131 | Environmental Physics Lab                | 1   |
| ENV | 140 | Geology, Hydrology and Soils             | 4   |
| ENV | 141 | Geology, Hydrology and Soils Lab         | 2   |
| ENV | 260 | Hazardous Materials                      | 6   |
| ENV | 261 | Hazardous Materials Lab                  | 3   |
| ENV | 270 | Treatment and Disposal Technologies      | 3   |
| ENV | 280 | Water Treatment Technology               | 6   |
| ENV | 281 | Water Treatment Technology Lab           | 2   |
| ENV | 290 | Wastewater Treatment Technology          | 6   |
| ENV | 291 | Wastewater Treatment Technology Lab      | 2   |
| ENV | 299 | Cooperative Education Program OR         | 3   |
| ENV | 298 | Practicum                                | (3) |
| TEC | 200 | Technical Communications                 | 3   |
| WPP | 200 | Workplace Principles                     | 3   |

**ELECTIVES:**

|     |     |                      |           |
|-----|-----|----------------------|-----------|
| ENV | 293 | Special Problems I   | (1)       |
| ENV | 295 | Special Problems II  | (2)       |
| ENV | 297 | Special Problems III | (3)       |
|     |     | <b>Total</b>         | <b>63</b> |

**Certificate  
Hazardous Materials Technician  
(Offered at CKT)**

|     |     |  |   |
|-----|-----|--|---|
| CPU | 100 | Introduction to Computers                | 3 |
| ENV | 100 | Environmental Mathematics                | 3 |
| ENV | 110 | Introduction to Environmental Technology | 4 |
| ENV | 111 | Environmental Sampling Techniques Lab    | 2 |
| ENV | 120 | Environmental Chemistry                  | 3 |
| ENV | 121 | Environmental Chemistry Lab              | 1 |
| ENV | 140 | Geology, Hydrology and Soils             | 4 |
| ENV | 141 | Geology, Hydrology and Soils Lab         | 2 |
| ENV | 260 | Hazardous Materials                      | 6 |
| ENV | 261 | Hazardous Materials Lab                  | 3 |
| ENV | 270 | Treatment and Disposal Technologies      | 3 |
| TEC | 200 | Technical Communications                 | 3 |

**ELECTIVES:**

|     |     |                     |     |
|-----|-----|---------------------|-----|
| ENV | 293 | Special Problems I  | (1) |
| ENV | 295 | Special Problems II | (2) |

|     |     |                      |           |
|-----|-----|----------------------|-----------|
| ENV | 297 | Special Problems III | (3)       |
|     |     | <b>Total Credits</b> | <b>37</b> |

**Waste Processing Attendant  
(Offered at CKT)**

|     |     |  |   |
|-----|-----|--|---|
| ENV | 110 | Introduction to Environmental Technology | 4 |
| ENV | 111 | Environmental Sampling Techniques Lab    | 2 |
| ENV | 140 | Geology, Hydrology and Soils             | 4 |
| ENV | 141 | Geology, Hydrology and Soils Lab         | 2 |
| ENV | 260 | Hazardous Materials                      | 6 |
| ENV | 261 | Hazardous Materials Lab                  | 3 |

**ELECTIVES:**

|     |     |                      |           |
|-----|-----|----------------------|-----------|
| ENV | 293 | Special Problems I   | (1)       |
| ENV | 295 | Special Problems II  | (2)       |
| ENV | 297 | Special Problems III | (3)       |
|     |     | <b>Total Credits</b> | <b>21</b> |

**Wastewater Treatment Plant Attendant  
(Offered at CKT)**

|     |     |  |   |
|-----|-----|--|---|
| ENV | 110 | Introduction to Environmental Technology | 4 |
| ENV | 111 | Environmental Sampling Techniques Lab    | 2 |
| ENV | 140 | Geology, Hydrology and Soils             | 4 |
| ENV | 141 | Geology, Hydrology and Soils Lab         | 2 |
| ENV | 290 | Wastewater Treatment Technology          | 6 |
| ENV | 291 | Wastewater Treatment Technology Lab      | 2 |

**ELECTIVES:**

|     |     |                      |           |
|-----|-----|----------------------|-----------|
| ENV | 293 | Special Problems I   | (1)       |
| ENV | 295 | Special Problems II  | (2)       |
| ENV | 297 | Special Problems III | (3)       |
|     |     | <b>Total Credits</b> | <b>20</b> |

**Wastewater Treatment Plant Operator  
(Offered at CKT)**

|     |     |  |   |
|-----|-----|--|---|
| CPU | 100 | Introduction to Computers                | 3 |
| ENV | 100 | Environmental Mathematics                | 3 |
| ENV | 110 | Introduction to Environmental Technology | 4 |
| ENV | 111 | Environmental Sampling Techniques Lab    | 2 |
| ENV | 120 | Environmental Chemistry                  | 3 |
| ENV | 121 | Environmental Chemistry Lab              | 1 |
| ENV | 140 | Geology, Hydrology and Soils             | 4 |
| ENV | 141 | Geology, Hydrology and Soils Lab         | 2 |
| ENV | 270 | Treatment and Disposal Technologies      | 3 |
| ENV | 290 | Wastewater Treatment Technology          | 6 |
| ENV | 291 | Wastewater Treatment Technology Lab      | 2 |
| TEC | 200 | Technical Communications                 | 3 |

**ELECTIVES:**

|     |     |                     |     |
|-----|-----|---------------------|-----|
| ENV | 293 | Special Problems I  | (1) |
| ENV | 295 | Special Problems II | (2) |

|     |     |                      |           |
|-----|-----|----------------------|-----------|
| ENV | 297 | Special Problems III | (3)       |
|     |     | <b>Total Credits</b> | <b>36</b> |

**Water Treatment Plant Attendant  
(Offered at CKT)**

|     |     |  |   |
|-----|-----|--|---|
| ENV | 110 | Introduction to Environmental Technology | 4 |
| ENV | 111 | Environmental Sampling Techniques Lab    | 2 |
| ENV | 140 | Geology, Hydrology and Soils             | 4 |
| ENV | 141 | Geology, Hydrology and Soils Lab         | 2 |
| ENV | 280 | Water Treatment Technology               | 6 |
| ENV | 281 | Water Treatment Technology Lab           | 2 |

**ELECTIVES:**

|     |     |                      |           |
|-----|-----|----------------------|-----------|
| ENV | 293 | Special Problems I   | (1)       |
| ENV | 295 | Special Problems II  | (2)       |
| ENV | 297 | Special Problems III | (3)       |
|     |     | <b>Total Credits</b> | <b>20</b> |

**Water Treatment Plant Operator  
(Offered at CKT)**

|     |     |  |   |
|-----|-----|--|---|
| CPU | 100 | Introduction to Computers                | 3 |
| ENV | 100 | Environmental Mathematics                | 3 |
| ENV | 110 | Introduction to Environmental Technology | 4 |
| ENV | 111 | Environmental Sampling Techniques Lab    | 2 |
| ENV | 120 | Environmental Chemistry                  | 3 |
| ENV | 121 | Environmental Chemistry Lab              | 1 |
| ENV | 140 | Geology, Hydrology and Soils             | 4 |
| ENV | 141 | Geology, Hydrology and Soils Lab         | 2 |
| ENV | 270 | Treatment and Disposal Technologies      | 3 |
| ENV | 280 | Water Treatment Technology               | 6 |
| ENV | 281 | Water Treatment Technology Lab           | 2 |
| TEC | 200 | Technical Communications                 | 3 |

**ELECTIVES:**

|     |     |                      |           |
|-----|-----|----------------------|-----------|
| ENV | 293 | Special Problems I   | (1)       |
| ENV | 295 | Special Problems II  | (2)       |
| ENV | 297 | Special Problems III | (3)       |
|     |     | <b>Total Credits</b> | <b>36</b> |

**Dates of Actions:**

**Approved:** May 1991

**Revised:** November 1993, November 1995, September 2000, March 2001