

# ENVIRONMENTAL TECHNOLOGY

This program will prepare students to enter the field of hazardous materials handling.

## Career Opportunities

Site Remediation Specialist      Haz Mat Consultant

## Faculty

### Part-Time

Randy Ellis      Jan Schienle  
Robert Montgomery

## ◆ Environmental Technology

### Associate in Science Degree

### Certificate of Achievement

Required Courses:		Units
BIOL R101	General Biology	3
BIOL R101L	General Biology Laboratory	1
BIOL R106	The Human Environment	3
BIOL R106L	Human Environment Laboratory	1
CHEM R110	Elementary Chemistry	5
ET R100	Introduction to Environmental Technology	3
ET R101	Hazardous Waste Reduction/Treatment	3
ET R102	Health Effects of Hazardous Materials	3
ET R103	Hazardous Waste Management Applications	4
ET R104	Safety and Emergency Response	4
ET R105	Hazardous Materials Management Application	4
<b>Total Required Units</b>		<b>34</b>

## Environmental Technology Courses

### ET R100—Introduction to Environmental Technology 3 units

*3 hours lecture weekly*

Course is designed to give the student a general overview of the hazardous technology area. A discussion of past and current sources of pollution and an introduction to the technologies that could be used to alleviate environmental problems. A presentation of the management systems, source controls, attenuating methodologies, etc., which are designed to protect the human community from potentially harmful substances. A historical perspective of the legislative process that has led to current regulations, where to find, and how to read these regulations will be presented. Discussion of career opportunities will also be included.

*Transfer credit: CSU*

### ET R101—Hazardous Waste Reduction/Treatment 3 units

*3 hours lecture weekly*

The study of industrial processes and their generation of waste streams in seven selected industries: electroplating, metal finishing and printed circuit board production, oil refining and chemical production, steel production, general manufacturing, printing and graphic reproduction, agriculture and consumer services. The course will center on various raw materials and chemicals used in industry, examining the changes that occur as they move through the industrial process, and understanding the material balance concept of inventory. Throughout the course, discussion of applicable regulations will be included, and the importance of waste minimization concepts will be stressed.

*Transfer credit: CSU*

### ET R102—Health Effects of Hazardous Materials 3 units

*3 hours lecture weekly*

Course covers the acute and chronic health effects produced by exposure to chemical, physical, and biological agents. Emphasis will be on those hazardous materials commonly associated with industrial operations, waste disposal and remediation sites. Topics will include routes of entry, toxic effects, risk assessment, permissible exposure limits, medical surveillance, control methods for reducing exposure, and understanding an MSDS.

*Transfer credit: CSU*

### ET R103—Hazardous Waste Management Applications 4 units

*3 hours lecture, 3 hours lab weekly*

Course provides an overview of hazardous waste regulations with emphasis in generator compliance, site investigation and remediation, permitting, enforcement and liability. The lecture portion of the course explains the hazardous waste regulatory framework and develops research skills in the hazardous waste area. The laboratory portion of the course complements the lectures by providing "hands-on" application of the regulations, including proper methods of preparing a hazardous waste manifest, labeling of storage containers, sampling and analysis, and preparing a Phase I Environmental Audit.

*Transfer credit: CSU*

### ET R104—Safety and Emergency Response 4 units

*3 hours lecture, 3 hours lab weekly*

Hands-on instruction in safety and emergency response to chemical and physical exposures in industrial and field settings. Topics include: hazard analysis, contingency planning, housekeeping and safety practices, including proper use and selection of PPE, site control and evaluation, handling drums and containers, field sampling and monitoring, proper use of instruments, incident response planning, emergency response including field exercises in the use of APR and SCBA, and an understanding of ICS system. This course satisfies the requirements for generalized employee training under OSHA (1910.120).

*Transfer credit: CSU*

### ET R105—Hazardous Materials Management Applications 4 units

*3 hours lecture, 3 hours lab weekly*

A study of the requirements and applications of federal, state, and local laws and regulations relating to hazardous materials. The course will emphasize compliance the Department of Transportation, OSHA Hazard Communication, SARA Title III Community Right-to-Know, Underground Tank, Asbestos, Proposition 65, and Air Toxics Regulations. The lecture portion of the course will provide the student with an understanding of the legal framework of hazardous materials laws; the laboratory portion will focus on applications of these laws, such as proper labeling, shipping, and handling of hazardous materials, using MSDSs, permitting and monitoring functions, as well as planning and reporting functions.

*Transfer credit: CSU*

### ET R106—Site Assessment and Remediation 3 units

*3 hours lecture weekly*

Course is designed for business leaders or professionals who need specific information about the process involved in the assessment, characterization, and remediation of contaminated sites.

*Transfer credit: CSU*