

Prepared by the Department of Natural Sciences & Life Fitness

Date of Departmental Approval: 2/5/07

Date approved by Curriculum and Programs: February 5, 2008

Effective: Fall 2008

1. Course Number: ENV158

Course Title: Occupational Safety and Health through Hazardous Waste Management

2. Description: This course covers hazardous materials management according to state and federal regulation through procedures developed by the Occupational Safety and Health Administration as outlined in the Hazardous Waste Operations and Emergency Response Regulation. Also to be discussed are the classifications of hazardous materials, the emergency response to a hazardous materials release, the affects of hazardous waste on society and the toxicology of hazardous materials. Additionally, all appropriate OSHA requirements for 40 hour HAZWOPER certification and 10 hour Construction Safety certifications are presented and practiced.

3. Student Learning Outcomes (instructional objectives; intellectual skills):

Upon successful completion of this course, students are able to do the following:

- Define the Federal and State regulations regarding hazardous materials
- Describe both OSHA 40 Hour HAZWOPER and OSHA 10 Hour Construction Safety practices
- Identify characteristics of hazardous materials
- Practice the hazardous materials incident response
- Identify hazardous waste site control procedures
- Define regulations regarding the transportation of hazardous materials
- Demonstrate the use of personal protection equipment
- Describe confined space safety practices
- Define the structure and responsibility of OSHA and EPA

4. Credits: 3 credits

5. Satisfies General Education Requirement: No

6. Prerequisite: None

7. Semester(s) Offered: Spring

8. Suggested General Guidelines for Evaluation: Students are graded using homework assignments, classroom activities, tests, and a final exam.

9. General Topical Outline (Optional):

1. Course Introduction, Understanding OSHA & EPA and the HAZWOPER Requirements.
2. Principals of Chemistry; What is a Hazardous Material? Excavation Safety.
3. Classes and Characteristics of Hazardous Materials.
4. Health Effects of Hazardous Materials and Principals of Toxicology.
5. Hazardous Materials Identification Systems from National Fire Prevention Associations and Department of Transportation, OSHA Electrical Safety.
6. Respiratory Protection and OSHA Fall Protection.
7. Personal Protection Equipment.
8. Midterm Exam. OSHA Crane and Derrick Safety.
9. Incident Command System.
10. Federal Regulations and Emergency Planning. Superfund and Emergency Planning and Community Right to Know Act.
11. Hazard Communication Standard (*Right to Know*) and Radiation Safety.
12. Physical Hazards at Hazardous Waste Sites, Confined Space Entry and Lock Out Tag Out.
13. Environmental Monitoring for Groundwater and Air Quality. Equipment Overview.
14. Hazardous Waste Site Control and Course Practical Exercise.
15. Course Practical and Course Review for Certification and Final.