

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 150 – HAZARDOUS WASTE MANAGEMENT APPLICATIONS

4 hours lecture, 4 units

Catalog Description

Overview of hazardous waste regulations with an emphasis on generator compliance, site investigation, remediation, permitting, enforcement, and liability. Explains the hazardous waste regulatory framework and the types of environmental resources available; develops research skills in the hazardous waste area; and provides hands-on application of the regulations at the technician level. Topics include proper methods of preparing a hazardous waste manifest, labeling of storage containers, sampling and analysis, preparing an Environmental Audit, and selecting environmental consultants.

Prerequisite

None

Course Content

- 1) Regulatory Overview
- 2) Generator Requirements I
 - a. Cradle-to-Grave liability
 - b. Storage requirements
- 3) Generator Requirements II
 - a. Hazardous waste minimization
 - b. Fees
 - c. Hazardous waste reporting
 - d. Extremely hazardous waste permits
 - e. Enforcement
- 4) Generator Requirements III
 - a. Resource Conservation and Recovery Act
 - b. California EPA standards
 - c. Waste discharge requirements
- 5) Generator Requirements IV
 - a. Clean Air Act
 - b. Comprehensive Environmental Response, Compensation, and Liability Act
- 6) Transportation, Treatment and Disposal
- 7) Superfund
- 8) Site Mitigation
- 9) Sampling and Analysis
- 10) RI/FS Process
- 11) Special Topics
 - a. Permitting
 - b. Infectious waste

c. Household hazardous waste

Course Objectives

Students will be able to:

- 1) Describe the characteristics of hazardous wastes.
- 2) Describe hazardous waste generator management requirements and limitations.
- 3) Define hazardous waste specifications for handling, treating, storing and disposal.
- 4) Distinguish appropriate terms common to the hazardous management for industry.
- 5) Compare and contrast federal, state and local hazardous waste standards, regulations and laws.
- 6) Describe agencies that regulate hazardous waste management and compliance.
- 7) Apply hazardous waste management techniques in compliance with federal, State, and local regulations
- 8) Identify hazardous waste requirements.

Method of Evaluation

A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.

- 1) Exams and quizzes which measure students' ability to describe the characteristics of hazardous waste and explain hazardous waste regulations including generator compliance, site investigation and remediation, permitting, and enforcement and liability.
- 2) Research paper and oral presentation which measures students' ability to integrate the principles of hazardous waste management and regulatory framework through the evaluation of current hazardous waste requirements.
- 3) Exercises which measure students' ability to apply appropriate methods of preparing hazardous waste for offsite disposal including sampling and analysis, preparation of Phase I Environmental assessment, and adherence to proper labeling and storage container requirements.

Special Materials Required of Student

None

Minimum Instructional Facilities

Smart classroom

Method of Instruction

- 1) Lecture and discussion
- 2) Projects

Out of Class Assignments

- 1) Reading assignments
- 2) Writing assignments
- 3) Projects
- 4) Reports

Texts and References

- 1) Required (representative example): Yadav, D., Kumar, P., Singh, P., Vallero, (2021). *D. Hazardous Waste Management An Overview of Advanced and Cost-Effective Solutions*. (1st Edition). Elsevier. ISBN 9780323859288.

2) Supplemental: None

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- 1) Describe the characteristics of hazardous wastes and generator requirements.
- 2) Define hazardous waste requirements for handling, treating, storing and disposal.
- 3) Distinguish appropriate terms and standards common to the hazardous management for industry.
- 4) Apply hazardous waste management techniques in compliance with federal, State, and local regulations.