

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 100 – INTRODUCTION TO ENVIRONMENTAL AND OCCUPATIONAL SAFETY AND HEALTH (OSH) TECHNOLOGY

4 hours lecture, 4 units

Catalog Description

General overview of the Environmental Health and Safety Management (EHSM) field with an emphasis on hazardous materials, hazardous waste management, and their effect upon the environment and worker health and safety. Topics include the history of pollution and workplace hazards leading to current legislation, and current best practices of handling hazardous substances to minimize the harmful impact on society and the environment.

Prerequisite

None

Course Content

- 1) Perspective and Overview
 - a. Environmental conservation movement
 - b. Current concerns
 - c. Environmental protection/worker health industry
- 2) Hazardous Materials Introduction and Overview
 - a. Chemistry overview
 - b. Characteristics of hazardous materials
 - c. Safety Data Sheets /labels, etc.
 - d. Terminology and terms
- 3) Overview of Environmental Laws, Agencies and Programs
 - a. Federal: RCRA, CERCLA, DOT, FIFRA, TSCA, NPDES, TRI and DHS
 - b. State: Toxic substances; community right to know; Prop 65; asbestos, PCB, batteries, etc.; underground/aboveground storage tanks; biomedical waste,
- 4) Occupational Laws, Agencies and Programs
 - a. Federal: Department of Labor, OSHA, DOT, FIFRA, EPA, FDA, TSCA, RMPP
 - b. State: CARB, APCD, RWQCB, CalARP, DEH/HMD, hazard communication, hazardous site worker requirements, Injury and Illness Prevention Plans (SB198), contingency plans: HMBP, CalARP
- 5) Introduction to Health Effects/Workplace Safety
 - a. Terminology
 - b. Principles
 - c. Worker rights
 - d. Worker protection programs
 - e. Medical surveillance
- 6) Environmental Measures
 - a. Soil: legislation, environmental contamination, community health protection, remediation
 - b. Water: legislation, environmental contamination, community health protection, remediation
 - c. Air: legislation, environmental contamination, community health protection, remediation
- 7) Waste Minimization: definitions, legislation, principles
- 8) Solid Waste Sites: construction, monitoring, sampling
- 9) First Responder Awareness: principles, application
- 10) Risk Management: principles of risk management

Course Objectives

Students will be able to:

- 1) Interpret laws and regulations pertaining to environmental management and OSH programs.

- 2) Distinguish between EHSM agencies that regulate environmental management and OSH programs.
- 3) Describe appropriate handling and management procedures for hazardous materials/waste.
- 4) Recognize and apply appropriate terms common to the environmental health and safety industry.
- 5) Define best management practices (BMP) and safe operation procedures (SOP) used in the EHSM industry.
- 6) Analyze the criteria of physical, chemical, and biological interactions of pollutants and their effect on EHSM.

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) Quizzes and exams which measure students' ability to broadly describe the EHSM field including its regulatory agencies, hazardous materials and waste management, and analyze the effect of each on environment and occupational health and safety.
- 2) Research paper, presentation, and/or toxicological case study which measures students' ability to analyze, interpret, and draw conclusions about a selected current environmental health and safety issue, and define correct Threshold Limit Values or Permissible Exposure Limits.
- 3) Group project which measures students' ability to describe, interpret, and evaluate the EHSM program requirements.
- 4) Problem-solving and/or field exercises which measure students' ability to model Best Management Practices (BMPs) and Safe Operation Procedures (SOPs) as presented in class.

Special Materials Required of Student

None

Minimum Instructional Facilities

Standard 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): None
- 2) Supplemental:
 - a. Industry reference books and articles
 - b. *Environmental Safety and Health Regulations*, ASSE, 2013. ISBN 978-1-885581-69-3
 - c. *Principles of Industrial Safety*, ASSE, 2013. ISBN 978-1-885581-75-4

Exit Skills

Students having successfully completed this course exit with the following skills, competencies and/or knowledge:

- 1) Interpret laws and regulations pertaining to environmental, health and Safety management and related programs.
- 2) Distinguish between EHSM agencies that regulate environmental management and OSH programs.
- 3) Recognize and apply appropriate terms common to the environmental health and safety industry.
- 4) Understand best management practices (BMP) and safe operation procedures (SOP) used in the EHSM industry.

Student Learning Outcomes

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

- 1) Apply laws and regulations pertaining to environmental management and occupational safety and health management.
- 2) Differentiate between agencies that regulate environmental health and safety management and understand their respective terms, regulations, best management practices and laws.
- 3) Identify the properties of physical, chemical, and biological interactions of hazardous materials, pollutants and wastes and their effects.