

**CUYAMACA COLLEGE**  
**COURSE OUTLINE OF RECORD**

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

4 hours lecture, 4 units

**Catalog Description**

This introductory course in Environmental Health and Safety Management (EHSM) provides an overview of the impact of physical, biological, and chemical hazards on our environment and human health. Specifically, it focuses on critical topics such as water and air pollution, land management, hazardous materials, worker rights, and regulatory oversight. Further, the course distinguishes between historical and current events that have prompted current legislation and best practices to minimize pollution and resource use, encourage worker health and rights, and create more sustainable societal practices.

**Prerequisite**

None

**Course Content**

- 1) Historical Perspectives
  - a. Environmental Conservation Movement
  - b. Evolution of worker rights
  - c. Formation of regulatory agencies and regulations
    1. Environmental Protection Agency (EPA)
    2. Occupational Safety and Health Administration (EPA)
    3. International Organization for Standardization (ISO) 14000 series
- 2) Air Contaminants
  - a. Air Pollution and Climate Change
  - b. EPA National Ambient Air Quality Standards
  - c. Clean Air Act (CAA)
  - d. Worker exposure to chemical vapors
  - e. Workplace Exposure Limits to Air Contaminants
- 3) Water Contaminants
  - a. Water pollution in watersheds
  - b. Stormwater management
  - c. Direct and indirect pollutant discharges
  - d. Clean Water Act (CWA)
  - e. National Pollutant Discharge Elimination System (NPDES),
  - f. Safe Drinking Water Act (SDWA)
- 4) Hazardous Materials and Wastes
  - a. Characteristics of hazardous materials and wastes
  - b. Globally Harmonized System (GHS) compliance
  - c. Health effects and routes of exposure
  - d. Superfund and Brown Act sites
  - e. Insecticides, Rodenticides and Pesticides
  - f. Environmental, human health, and ecological impacts
  - g. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
  - h. Department of Homeland Security (DHS)

- i. Department of Transportation (DOT),
  - j. Resource Conservation and Recovery Act (RCRA)
  - k. Toxic Release Inventory (TRI)
  - l. Toxic Substances Control Act (TSCA)
  - m. Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
  - n. Food and Drug Administration (FDA)
  - o. Hazardous Waste Operations and Emergency Response (HAZWOPER)
- 5) Workplace Safety
- a. General, maritime, and construction safety standards
  - b. Injury and Illness Prevention Program (CA SB198)
  - c. Accident investigation
  - d. Industrial hygiene
  - e. Risk Management
- 6) Solid Waste
- a. Disposal site types, monitoring, sampling
  - b. Pollution prevention
  - c. Recycling
  - d. Reduction
  - e. Resource Conservation and Recovery Act (RCRA)
  - f. ISO 14001
- 7) Ecology and Land Management
- a. Endangered Species Act
  - b. National Environmental Protection Act (NEPA)
  - c. California Environmental Quality Act (CEQA)
  - d. Phase 1 investigations
- 8) Sustainability
- a. Water conservation
  - b. Alternative energy
  - c. Land conservation
  - d. Resource conservation
  - e. Soil conservation

### **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) 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.
- 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. Friis, R. (2019). *Essentials of Environmental Health*. (Third Edition). Jones & Bartlett Learning. ISBN 9781284123975

**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.

**Student Learning Outcomes**

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

- 1) Differentiate regulatory agencies' purpose and laws as applicable to environmental, human, and worker health issues.
- 2) Analyze the criteria of physical, chemical, and biological interactions of pollutants and their effect on environmental, human, and worker health issues.
- 3) Illustrate current examples of environmental and worker health issues and associated population groups with disproportionate effects.