

# ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT (EHSM)

## EHSM-100

### Introduction to Environmental and Occupational Safety and Health (OSH) Management 4 UNITS

4.0 hours lecture

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. (CSU)

## EHSM-110

### Industrial Sustainability 3 UNITS

3.0 hours lecture

Industrial sustainability focuses on the study of raw materials and chemicals used in industrial activities, their movement through the industrial process, and the evaluation of their impact on the environment. Topics will include evaluating environmental impacts, resource management and reduction, waste recycling, reuse and reduction, life cycle assessment of products, and sustainable procurement and distribution, renewable energy, green building, corporate social responsibility, and the applicable regulations and standards. (CSU)

## EHSM-130

### Environmental & Occupational Health Effects of Hazardous Materials 3 UNITS

3.0 hours lecture

Study of the acute and chronic health effects produced by exposure to chemical, physical, and biological agents. Topics include routes of entry, toxic effects, risk evaluation, permissible exposure limits, medical surveillance, control methods for reducing exposure, and using Safety Data Sheets (SDS) to develop strategies to reduce worker exposure. (CSU)

## EHSM-135

### General Industry Safety Standards 3 UNITS

3.0 hours lecture

Overview of the elements which are incorporated in a comprehensive general industrial safety program. Emphasizes methods used to reduce accidents/injuries through the application of workplace health protection and safety fundamentals. Topics include protocols, safety audits, data collection and analysis techniques, interpretation of safety data, safety inspections, development and implementation of safety programs, worker education, and the essentials of Personal Protective Equipment (PPE). (CSU)

## EHSM-140

### Laboratory Safety Management 4 UNITS

4.0 hours lecture

An overview of laboratory safety management which may be performed by a safety technician in biotechnology, chemical manufacturing, university and private laboratory settings. Topics include recognition, evaluation and control of laboratory hazards associated with chemicals, radioactive materials, lasers, animals, laboratory equipment, and biological materials. Emphasis will be on environmental health and safety management duties performed in laboratory settings. (CSU)

## EHSM-145

### Construction Safety Standards 3 UNITS

Recommended Preparation: "C" grade or higher or "Pass" in EHSM 100 or equivalent

3.0 hours lecture

Introduction to California and Federal (Cal/OSHA and Fed/OSHA) construction safety standards and regulations. Integrated study of hazard recognition and abatement principles related to the construction worksite. Topics include: compliance issues and challenges facing safety professionals including mishap and case study analysis; California and Federal construction safety standards; worksite inspection; interfacing with compliance officials; vertical and horizontal standards; and common construction industry compliance issues. (CSU)

## EHSM-150

### Hazardous Waste Management Applications 4 UNITS

4.0 hours lecture

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. (CSU)

## EHSM-200

### Hazardous Materials Management (HMM) Applications 4 UNITS

Recommended Preparation: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment

4.0 hours lecture

Requirements and applications of federal, state and local hazardous materials laws and Requirements and applications of federal, state and local hazardous materials laws and regulations. Emphasizes program compliance with OSHA (Occupational Health and Safety Administration) Hazard Communication Plan, EPA (Environmental Protection Agency) Community Right-To-Know, Department of Transportation, Proposition 65, and Emergency Response Plan. Includes the legal framework of hazardous materials laws and requirements and step-by-step program development: written plan, obtaining/interpreting MSDS (Material Safety Data Sheets), labeling, emergency responders site map, shipping, handling, and training. Students will develop plans related to hazardous materials management through hands-on program development: DEH/HMD (Department of Environmental Health/Hazardous Materials Division) Hazardous Material Business Plan, OSHA Hazardous Communication Plan, components of CalARP (California Accidental Release Prevention) and RMP (Risk Management Plan), and planning and reporting functions. (CSU)

**EHSM-201****Introduction to Industrial Hygiene and Occupational Health 4 UNITS**

Recommended Preparation: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment

3.0 hours lecture, 3.0 hours laboratory

Anticipation, recognition, reevaluation and control of biological, chemical and physical hazards in the workplace. Introduction to the development of industrial hygiene and occupational health and safety as a professional discipline. Provides an understanding of basic physiological processes and the effects caused by occupational exposure to hazards. Survey of various occupational health and safety programs and government regulations. Industrial hygiene monitoring and sampling techniques for airborne contaminants, noise, heat, radiation and illumination. (CSU)

**EHSM-205****Safety and Risk Management Administration 4 UNITS**

4.0 hours lecture

Study of how accidents and incidents occur in the occupational health and safety environment. Instruction in the establishment and maintenance of safety programs and comprehensive analysis of occupational health programs with an emphasis on safety program management. Topics include: planning approaches to safety and health management used by international, national and local regulatory agencies, insurance companies, and professional societies; risk management; worker compensation; and employee accommodations in the workplace. Students will develop plans related to safety and risk management. (CSU)

**EHSM-210****Industrial Wastewater and Stormwater Management 4 UNITS**

4.0 hours lecture

Overview of water/wastewater regulations with an emphasis on federal, state and local regulatory standards. Integrated study of the principles of wastewater and stormwater management including hydrology, water distribution, wastewater collection, stormwater management, and overall safe drinking water issues. (CSU)

**EHSM-215****Air Quality Management 3 UNITS**

3.0 hours lecture

Overview of air quality regulations with an emphasis on federal, state and local requirements. Integrated study of the principles of air permits and permit compliance including source testing, emission reduction, inspections, monitoring, stationary and mobile sources, air toxics, new equipment shutdown, and overall global air quality issues. (CSU)

**EHSM-230****Hazwoper Certification 3 UNITS**

3.0 hours lecture

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 (Personal Protective Equipment); 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 PAPR (Powered Air Purifying Respirator) and SCBA (Self Contained Breathing Apparatus); and an overview of the ICS (Incident Command System). Satisfies requirements for generalized employee training under OSHA (Occupational Health and Safety Administration) [29 CFR 1910.120] and Title 8, California Code of Regulations [5192 (e) (3) (A)]. (CSU)

**EHSM-240****Cooperative Work Experience 1-4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in EHSM 100 or equivalent

Practical application of principles and procedures learned in the classroom to various phases of Environmental Health and Safety Management (EHSM). Work experience will be paid or volunteer positions at local industries or governmental agencies that regulate environmental industries. Placement assistance will be provided, but students are required to select and secure a placement site. Minimum of one unit of work experience is required to complete the EHSM certificate/degree. Occupational cooperative work experience credit may accrue at the rate of one to 8 units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of 8 units in EHSM. 75 hours paid or 60 hours non-paid work experience per unit, 1-4 units. (CSU)

**EHSM-250****EHS Field Applications 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in EHSM 100 or equivalent

Recommended Preparation: Occupational Safety and Health Management degree/certificate students should complete EHSM 130, 135, 200, 201, 205 and 230. Environmental Management degree/certificate students should complete EHSM 150, 200, 210, 215 and 230. 1.0 hours lecture, 6.0 hours laboratory

Field experiences will enhance student abilities to perform various Environmental Health and Safety Management (EHSM) applications under the direction of a qualified EHS professional. Applied experience will provide students with important workplace critical thinking, written and verbal communication, and technical skills difficult to learn in the classroom environment. (CSU)