

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 145 – CONSTRUCTION SAFETY STANDARDS

3 hours lecture, 3 units

Catalog Description

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.

Prerequisite

None

Recommended Preparation

“C” grade or higher or “Pass” in EHSM 100 or equivalent

Entrance Skills

Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed:

- 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.

Course Content

- 1) Regulatory History and Background
 - a. OSHA Act and resultant state impacts upon safety
 - b. Rule development
 - c. California and Federal standards
 - d. Interfacing with compliance officials
 - e. Construction industry mishap statistics
- 2) Safety Program Management
 - a. Worksite inspections
 - b. Mishap/accident investigation and reporting
 - c. Case studies/lessons learned
 - d. Risk assessment
 - e. Risk management
 - f. Worksite safety for third parties
- 3) Safety Programs Associated with Construction Safety
 - a. Fall protection
 - b. Scaffolding
 - c. Electrical safety
 - d. Power tool safety
 - e. PPE

- f. Traffic control
- g. Crane safety
- h. Weight handling
- i. Demolition
- j. Heavy equipment operation/power industrial trucks
- k. Explosives safety/powder actuated tools
- l. Trenching and excavation
- m. Hazardous and toxic materials (asbestos, lead, man-made vitreous fibers, PCBs)

Course Objectives

Students will be able to:

- 1) Identify, describe and apply California and Federal (Cal/OSHA and Fed/OSHA) safety regulations and standards relevant to the construction industry.
- 2) Apply California and Federal safety standards to assess construction worksites and recognize hazardous conditions and/or noncompliance.
- 3) Use California and Federal safety standards to evaluate situations of noncompliance and employ risk assessment strategies and principles to develop a hazard abatement plan.
- 4) Investigate construction accidents/mishaps and identify root causes of the accident/mishap based upon California and Federal safety regulations and standards.
- 5) Evaluate construction job processes and identify appropriate risk management strategies (e.g., engineering controls, personal protective equipment) in order to protect worker safety.

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 that measure students' ability to identify, describe, and apply California and Federal construction safety regulations and standards related to hazardous conditions and/or noncompliance.
- 2) Risk assessment plan that measures students' ability to develop and apply a hazard abatement plan in compliance with California and Federal safety regulations and standards.
- 3) Based on California and Federal safety regulations and standards, students will complete a written assessment of construction worksite and mishap case summaries that involve a construction accident/mishap and identify root causes.

Special Materials Required of Student

None

Minimum Instructional Facilities

Smart classroom

Method of Instruction

- 1) Integrated classroom lecture, discussion and demonstration
- 2) Small and large group discussion
- 3) In-class activities and independent homework/research projects
- 4) Auxiliary use of study groups, peer tutoring and/or instructional office hours

Out of Class Assignments

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

Texts and References

- 1) Required (representative examples):
 - a. *Cal/OSHA State of California Construction Safety Orders*. Mancomm, 2013.
 - b. *29 CFR 1926 OSHA Construction Industry Regulations*. Mancomm, 2014.
- 2) Supplemental: None

Student Learning Outcomes

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

- 1) Identify, describe and validate research methodologies of applicable California and Federal (Cal/OSHA and Fed/OSHA) safety regulations and standards relevant to the construction industry.
- 2) Demonstrate the application of California and Federal safety standards to assess construction worksites and recognize hazardous conditions and/or noncompliance.
- 3) Investigate construction accidents/mishaps, identifying root causes of the accident/mishap and relate findings to possible citations based upon California and Federal safety regulations and standards.
- 4) Apply appropriate and recognized construction risk management strategies (e.g., engineering controls, personal protective equipment) in order to protect worker safety and validate regulatory compliance.