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Industrial Education Safety (IES) 1116 Hazardous Waste Operations and Emergency Response (HAZWOPER) Training (1.75 units)

Prerequisite: None

Total Hours: 30 hours lecture; 10 hours lab (40 hours total)

Catalog Description: This course covers the necessary disciplines required to satisfy the Federal Code of Regulations 1910.120 concerning off site instruction for personnel that will work in hazardous waste sites and or remediation zones with emphasis on emergency response operations. This course will also meet the State of California requirements for a Technician for emergency response standards CCR §5192. Westec provides a 40 hour hazwoper certificate upon successful completion. This course is offered on a Pass/No Pass basis with a letter grade option.

Type of Class/Course: Degree Credit

Textbook: *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*. NIOSH, OSHA, USCG, USEPA, 2016.

North American Emergency Response Guidebook. United states Department of Transportation. J. J. Keller & Associates, 2016.

Additional Required Materials: None

Course Objectives:

By the end of the course, a successful student will be able to:

1. recognize hazardous substances and the risk associated when involved in an incident,
2. use a safety data sheet to assess the risks associated with hazardous materials and proper response to an incidental or uncontrolled release,
3. use the North American emergency response guidebook during the initial phase of a hazardous material incident,
4. store, inspect, and maintain personal protective equipment related to hazardous materials,
5. initiate incident command system, and
6. set up and perform a decontamination line.

Course Scope and Content:

Unit I General Industry Safety

Trenching and Excavations

- A. Definitions
- B. Hazards
- C. Soil mechanics
- D. Sloping, shoring, and shielding safeguards

Confined Space

- A. Definitions
- B. Hazards
- C. Personnel and responsibilities of team

Energy Control – Lockout/Tagout

- A. Definitions
- B. Types of energy
- C. Methods of control
- D. Locks and tags
- E. Authorized person

Machine Guarding

- A. Definitions
- B. Point of operation hazards
- C. Types and methods of guarding

Flammable Materials

- A. Definitions
- B. Upper and lower flammable/explosive limits
- C. Safe handling
- D. Proper storage

Fire Prevention and Response

- A. Definitions
- B. Fire tetrahedron
- C. Classes of fires
- D. Use of fire extinguishers

Electrical Safety

- A. Electrical terms
- B. Hazards of electricity
- C. Effects of electrical current

Personal Protective Equipment

- A. Administrative controls
- B. Engineering controls
- C. Head protection
- D. Eye and face protection
- E. Fall protection
- F. Hearing protection
- G. Foot protection

- H. Respiratory protection (supplied air and air purifying)
- I. Chemical suits

Hazard Communication

- A. Employer's requirements
- B. Global harmonized system (GHS)
- C. Safety data sheets (SDS)

- Unit II Hazardous Substance recognition and Identification
 - A. Recognition indicators
 - B. Identification methods
 - C. Chemical and toxicological behavior
- Unit III Hazards of a Release
 - A. Physical and health
 - B. Routes of exposure
 - C. Fatalities, injuries, and illness
 - D. Potential outcomes
 - E. Emergencies
 - F. Property and environment
 - G. Business impact
- Unit IV HAZWOPER 29 Code of Federal Regulations (CFR) 1910.120
 - A. Course Introduction
 - B. Scope and Application
 - C. Site Definitions
 - D. Types of Releases
 - E. Regulatory Requirements for Training
 - F. Terminology and abbreviations
- Unit V North American Emergency Response Guide
 - A. Purpose
 - B. Information Provided
 - C. How to Use
- Unit VI Roles of HAZMAT Team Members
 - A. Recognizing Emergencies
 - B. Notification process
 - C. Reporting a release
 - D. Isolation and Protection
 - E. Responder levels
 - F. Emergency response plan (ERP)
 - G. Standard operating procedures
- Unit VII Environmental Protection Agency (EPA) Guidelines
 - A. Overview of Protection Requirements
 - B. Protective Methodologies
 - C. Choosing protective Measures

- Unit VIII Unified Command System
- A. Definition
 - B. Functions
 - C. Incident Command Structure
 - D. National interagency incident management system
 - E. Reporting and Relieving Protocols
 - F. Assuming Positions
- Unit IX Control Operations
- A. Site characterization and analysis
 - B. Evacuation
 - C. Shelter in-place
 - D. Control zones
 - E. Security
 - F. Communication system
 - G. Control, containment, and/or confinement operation of released hazardous material
- Unit X Safety and Health Program
- A. Medical surveillance
 - B. Monitoring
- Unit XI Decontamination
- A. Contamination and exposure
 - B. Methods
 - C. Disposal
- Unit XII Handling Drums and Containers
- Unit XIII Termination
- A. Debriefing
 - B. Critique of response
 - C. Recordkeeping

Lab Content:

1. Field response to simulated hazardous waste spill and gas release
2. Institution of the Incident command system
3. Set up and practice decontamination techniques
4. Use of NAERG in a field situation
5. Tabletop scenarios for decision-making practice in response to HAZMAT spills and releases

Learning Activities Required Outside of Class: 3.5 hours of Homework

The students in this class will spend a minimum of 3.5 hours per week outside of the regular class time doing the following:

1. Studying assigned text, handout materials, and class notes

2. Reviewing and preparing for quizzes and examinations
3. Reviewing case studies
4. Completing written assignments and projects

Methods of Instruction:

1. Lecture
2. In-class workshops
3. Activities
4. Demonstrations
5. Case Studies

Methods of Evaluation:

1. Written final exam
2. Performance observation
3. Participation
4. Quizzes
5. Role Playing
6. Group Projects

Supplemental Data:

TOP Code:	095670: Indus Occupational Safe Health
SAM Priority Code:	C: Clearly Occupational
Distance Education:	Not Applicable
Funding Agency:	Y: Not Applicable(funds not used)
Program Status:	2: Stand-alone
Noncredit Category:	Y: Not Applicable, Credit Course
Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Course is not a basic skills course

Prior to College Level:	Y: Not applicable
Cooperative Work Experience:	N: Is not part of a cooperative work experience education program
Eligible for Credit by Exam:	NO
Eligible for Pass/No Pass:	C: Pass/No Pass
Taft College General Education:	NONE