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Industrial Education Safety (IES) 1120 Confined Space Attendant/Entrant Plus Medic First Aid Retraining (.25 Unit)

[formerly Petroleum Technology 93X]

Prerequisite: None

Total Hours: 4 hours lecture; 4 hours lab (8 hours total)

Catalog Description: This course will satisfy the minimum safety training required by most companies for participants to work in Confined Spaces, and includes Cardio-Pulmonary Resuscitation (CPR) and First Aid. This course is offered on a Pass/No Pass basis with the option to receive a letter grade.

Type of Class/Course: Degree Credit

Textbook: None

Additional Required Materials: None

Course Objectives:

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

1. recognize both non-permit and permit confined spaces, and
2. exercise cautionary and the necessary measures to prevent injury by hazards found in confined spaces.

Course Scope and Content:

Unit I Characteristics of Confined Spaces

- A. Description
- B. Interpretations

Unit II Regulations

- A. Overview of Code of Federal Regulations (CFR) §1910.147

Unit III Isolation

- A. Pre-Opening Isolation
- B. Ongoing Isolation Monitoring

Unit IV Noise Control

- A. Hazards to Hearing Inside Enclosed Vessels, Tanks, and Vaults
- B. Methods of Noise Control

Unit V Monitors

- A. Purpose
- B. Personal Monitors
- C. Area Monitors

- Unit VI Carbon Monoxide
- A. Characteristics and Hazards
 - B. Precautions

- Unit VII Respirators
- A. Types, Uses, and Limitations
 - B. Pre-Use Inspection
 - C. Cartridge Change Schedules
 - D. Maintenance and Storage

- Unit VIII Ventilators
- A. Techniques
 - B. Hazards and Precautions

- Unit IX Non-Entry Rescue
- A. Three levels of rescue – Self, Non-Entry, and Entry
 - B. Space and task analysis to determine whether non-entry or entry is indicated
 - C. Equipment requirements for non-entry rescue
 - D. Use of life-line and tripod

- Unit X Permit Spaces
- A. Differentiation between Permit-Required and Non-Permit-Required Spaces
 - B. Entry Preparation Differences

- Unit XI Permits
- A. When permits are required
 - B. Setting time limits
 - C. Pre-entry atmospheric testing
 - D. Determining the need for continuous atmospheric monitoring
 - E. Entrant rights to observe atmospheric tests
 - F. Authorization signatures
 - G. Closing a permit

- Unit XII Heat Stress
- A. Types and Causes
 - B. Confined Space Influences
 - C. Precautions
 - D. Treatments

- Unit XIII Atmospheres
- A. Atmospheric Hazards
 - B. Testing for Hazardous Atmospheres
 - C. Tracking Atmospheric Conditions during Entries

- Unit XIV Hydrogen Sulfide
- A. Description, Characteristics, and Hazards
 - B. Usual Locations
 - C. Testing

D. Exposure Limits

- Unit XV Communication Equipment
- A. Regulatory Requirements
 - B. Types and Methods
 - C. Equipment Hazard Considerations

- Unit XVI Harnesses and Tripods
- A. Full-Body Harness Architecture
 - B. Tripod Architecture
 - C. Use for Vertical Entries and Limitations
 - D. Use for Non-Entry Rescue

- Unit XVII Emergency Procedures
- A. Regulatory Requirements for Emergency Action Plans

- Unit XVIII Evacuation
- A. Evacuation Circumstances

- Unit XIX Medic First Aid Retraining
- A. Function of the Care Initiator
 - B. Explain actions represented by the acronym –Stop-Environment-Traffic-Unknown Hazards-Protect Yourself (S.E.T.U.P)
 - C. Review respiratory assistance techniques
 - D. Review cardiac compression technique

Lab Content:

1. Hands on practice CPR techniques
2. Hands-on practice of using personal protective barriers while administering first aid
3. Demonstration of Confined Space Entry equipment use

Learning Activities Required Outside of Class: None

Methods of Instruction:

1. Lecture
2. Practice exercises

Methods of Evaluation:

1. Written final exam
2. Performance observation