Occupational Safety and Health (OSH) 1552 Respiratory Protection for Hazardous Materials Handling and Permit Required Confined Spaces (2 Units) CSU

Prerequisite: None

Hours and Units Calculations: 32 hours lecture + 64 outside of class hours (96 Total Students Learning Hours) = 2 Units

Catalog Description: This course will focus on the safe handling, minimizing, and preventing catastrophic releases of hazardous materials. Personal Protective Equipment (including respiratory protection equipment) needed to work in and around hazardous atmospheres and permit-required confined spaces will be used.

Type of Class/Course: Degree Credit

Recommended Textbook:


29 CFR §1910, General Industry Regulations, Mangan Communications, Inc.: Davenport, Iowa, 2016 Print

Cal-OSHA General Industry Safety Orders, Mangan Communications, Inc.: Davenport, Iowa, 2016 Print

Enrollment Limitation:
Medical evaluation for respirator use; performed by a licensed health care professional

Course Objectives:

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

1. describe methods for detecting unsafe storage conditions for hazardous materials,
2. evaluate factors that may contribute to the creation of hazardous conditions,
3. determine best practices to mitigate risk associated with hazardous conditions in General and Construction Industries,
4. identify processes that involve highly hazardous chemicals at or above the specified threshold quantities,
5. list the requirements of Occupational Safety and Health Administration’s Permit-Required Confined Spaces for General Industry Standards,

6. describe, evaluate and control safety and health hazards associated with confined space entry,

7. report, in writing, violations of the Permit-Required Confined Spaces Standards,

8. identify and describe the major elements of a respiratory protection program following the requirements of 29 Code of Federal Regulation 1910.134,

9. analyze the technical aspects for the proper selection and use of respiratory protection, and

10. evaluate the effectiveness of certain types of respirators to be used in hazardous and non-hazardous atmospheres.

Course Scope and Content:

Unit I  General Overview
A. Hazardous Materials
B. Permit Required Confined Spaces
C. Respiratory Protection
D. Definitions

Unit II Subpart H Hazardous Materials
A. Flammable Liquids
B. Storage and handling
C. Ignition sources
D. finishing operations
E. Key definitions
F. Fire controls

Unit III Compressed Gasses
A. General requirements
B. Key definitions
C. Storage and handling
D. Inspections

Unit IV Liquefied Petroleum Gasses
A. Basic rules
B. Key definitions
C. Storage and handling

Unit V Anhydrous Ammonia
A. Basic rules
B. Key definitions
C. Storage and handling
D. Refrigerated storage systems

Unit VI Process Safety Management (PSM)
A. Highly hazardous chemicals
B. Key definitions
C. Elements of a PSM program
D. Compliance and recommendations

Unit VII Permit Required Confined Spaces Scope and Definitions
A. Basic Rules
B. Key definitions
C. 29 CFR 1910.146 (a) and (b)
D. CCR, Title 8, §5156

Unit VIII General Requirements
A. 29 CFR 1910.146(c)
B. CCR, Title 8, §5157
C. Ventilation
D. Atmosphere monitoring devices

Unit IX Permit Required Confined Space Programs
A. 29 CFR 1910.146 (d-i)
B. CCR, Title 8, §5158

Unit X Respiratory Protection
A. Respirator Descriptions
B. Respirator Capabilities
C. Fit Testing and Personnel Evaluation
D. Evaluation of Respirators for hazardous conditions

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 64 hours 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. Demonstrations
4. Case Studies

Methods of Evaluation:
1. Written final exam (OSHA 30)
2. Written final exam (Construction Industry Standards)
3. Performance observation
4. Participation
5. Quizzes
6. Role Playing  
7. Group Projects

Supplemental Data:

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