

SAFE 145 Occupational Safety and Health Standards for General Industry

Course Outline

This course is designed to provide training to workers in general industry with safety responsibilities. The course will be instructed by an OSHA recognized instructor and will emphasize hazard identification, avoidance, control and prevention.

Course Outcome and Objectives

Upon satisfactory completion of this Course the student should be able to perform the following outcomes and Objectives

Introduction to OSHA

- Understand why is OSHA important
- Review the history of the OSHA and Workplace Regulations
- Understand and apply the rights and responsibilities for employers and employees under the OSH Act
- What are OSHA Standards and what do they cover
- Understand and explain procedures that are followed by OSHA for Complaints, Inspections and Citations
- Recognize the most common hazards cited by OSHA
- Understand the General Duty Clause and how it applies to the workplace

Managing Safety and Health

- Discuss the costs of accidents
- Be able to list the Elements of Safety & Health Programs including management leadership, allocation of Resources, expectations of performance, worker involvement, hazard identification, hazard prevention and control, education and training and program evaluation
- Understand and be able to explain the implementation of these programs at single locations and multi-employer worksites
- Identify the benefits of each element of Safety and Health programs and how they serve to reduce injury and illness

Walking Working Surfaces, Including Fall Protection

- Discuss the OSHA Housekeeping requirements to the workplace and how these apply to walking working surfaces
- Explain the different ways aisles can be marked and why this is necessary
- Understand the requirements for design and maintenance of working surfaces to reduce injury

Exit Routes, Emergency Action Plans, Fire Prevention Plans and Fire Protection

- Understand why and how fires and explosions injure workers
- Review the history of incidents in the workplace
- Understand proper exits, exit components, what types of exits are required and exit marking
- Examine the design and maintenance of exit components
- Understand the requirements for a fire prevention plan; be able to explain the types of fire extinguishers
- List the maintenance requirements for fire extinguishers
- Review requirements for training required for employees who use fire extinguishers

Electrical

- Demonstrate knowledge of the common hazards from electricity in the workplace and how to eliminate these hazards
- Review Ground Fault Circuit Interrupters (GFCI) and how these protect employees and where the use of them is required
- The hazards of flexible cords, how they may be used in the workplace and what uses are prohibited
- Review repair requirements, and specifications for cords
- Provide an overview of circuit breakers, how they work and proper labeling
- Discuss requirements for electrical boxes, cabinets and fittings
- Understand electric shock and arc flash how they occur
- Review requirements for lockout and working on live equipment
- Requirements for electrical training of employees

Personal Protective Equipment (PPE)

- Understand the hierarchy of controls for hazard control in the workplace
- Review current OSHA policy on payment for PPE and explain how it applies to specific items of PPE.
- Understand employer and employee rights and responsibilities as they apply to the use of PPE in the workplace
- training requirements in the OSHA standards and how these apply to specific types of PPE
- Present an overview of types of PPE and the use of them in the workplace

Materials Handling

- Review the requirements for use of mechanical material handling equipment
- Demonstrate knowledge of safe storage
- Demonstrate knowledge of requirements for powered industrial trucks including maintenance, fueling and operation
- Explain requirements for operator training in the use of equipment
- Describe prohibition on methods to use a fork truck to lift employees

- Discuss requirements for the use of cranes in the workplace including training requirements and inspections needed
- Review requirements for slings used in the workplace including safe operating procedures and inspections

Hazard Communication

- Review the OSHA Hazard Communication Standard and how each section of it applies to the workplace
- Discussion of the history and reasons that hazard communication was implemented and how it serves to prevent injury and illness
- Be able to describe the elements of a comprehensive hazard communication program and how it is implemented
- Students will prepare a written hazard communication program for several different scenarios
- Discussion of the Global Harmonization System
- Understand the specifications for Safety Data Sheets and Labels and how these are made available in the workplace
- Discuss the definitions of different types of hazards (Acids, Corrosives, Combustible Dust etc.) and how these apply in specific workplace scenarios
- Understand the use of labeling by employers and manufacturers, what must be labeled, exceptions for labeling
- Training requirements under the standard, who must be trained, what must be covered

Hazardous Materials

- Includes Flammable and Combustible Liquids, Spray Finishing, Compressed Gases, Dipping and Coating Operations
- Review the use of gases in the workplace and understand the hazards of commonly used gases.
- Review factors of materials that cause them to be hazardous, flash point, flammable range, vapor density and how these should be considered
- Examine the required rules under OSHA for the handling, use and storage of flammable liquids
- Learn the characteristics of hazardous materials that increase the potential of an incident
- Review safe methods of storing and using flammable liquids
- Understand OSHA requirements as they apply to dipping and coating operations

Permit-Required Confined Spaces

- Define what is a confined space and a permit required confined space
- Discuss the types of confined spaces and the hazards of each
- Demonstrate knowledge of the definition and duties of the authorized entrant, supervisor and attendant
- Understand the definition and hazards of engulfment, entry, hazardous atmosphere, IDLH
- Discuss methods of decreasing the hazards in a space including lockout and isolation
- Review rescue methods and procedures

- Determine correct methods to test for hazardous atmospheres
- Review other hazards that could occur in the space not related to the confined space that could inhibit exiting or cause injury
- Entry permit requirements, students will prepare an entry permit for a confined space scenario

Lockout/Tag out

- Discuss what industries and equipment are covered by lockout requirements
- Review when lockout is required
- Demonstrate knowledge of the purpose of lockout
- Learn and apply definitions that apply to lockout and be able to give examples of each
- Review energy control program required content
- Discuss protective materials and hardware that are available for effective lockout
- Explain periodic inspection of lockout
- Review training requirements under the standard
- Demonstrate knowledge of how lockout applies to contractors
- Discuss Group lockout

Machine Guarding

- Understand general requirements that apply to all machines
- Demonstrate knowledge of the point of operation guarding requirements
- Explain the use of hand tools and the role they can have to limit exposure to hazards
- Discuss requirements for guarding of specific machines
- Review the OSHA National Emphasis Program on Amputations
- Discussion of woodworking machinery
- Discussion on the definition of terms, operation, installation, controls and guarding requirements for abrasive wheel (grinding) machinery
- Discussion on the definition of terms, machines covered and not covered in the standard for mechanical power presses
- Operation, installation, controls and guarding requirements for mechanical power presses
- Discussion on Table O-10 in the mechanical press standard
- Requirements for maintenance and inspection of mechanical power presses and safety devices used on them
- Review of requirements for die setting procedures
- Understand requirements for power transmission guarding, what must be guarded and how this guarding must be made and installed

Welding, Cutting and Brazing

- Discuss the fire hazards of hot work and measures to reduce these hazards
- Understand the impact of contractors work and materials they use
- Students will prepare a hot work permit for several scenarios
- Review of the requirements for a fire watch and how to implement it

- Training requirements under the OSHA standards will be reviewed
- List and understand the responsibilities of the employee, the supervisor and management in reducing the hazards from hot work
- Prohibited welding and cutting procedures will be reviewed
- Fall protection will be reviewed for welders and helpers
- Discussion of PPE requirements for hot work will be covered in detail
- Health hazards to welders and helpers from hazardous fumes, gases or dust will be explained with examples of each
- Methods to reduce health hazards from welding and cutting will be discussed with examples
- Review operating procedures for the use of cylinders to prevent hazards
- Understand the safety hazards inherent in the use of welding gasses acetylene and oxygen as well as necessary storage requirements for cylinders
- Certification requirements for electrical arc welding equipment and pertinent standards that cover this equipment will be discussed
- Specific training requirements for arc welding workers and maintenance staff will be listed and explained in detail
- Students will be able to describe a training program for arc welders based on a scenario

Introduction to Industrial Hygiene

- Define Industrial Hygiene and what Ihs do in the workplace
- Understand Subpart Z of the OSHA Standards and how it applies to the workplace
- Demonstrate an understanding of Table Z-1, Z-2 and Z-3 and explain the terms used in each
- Perform a calculation which demonstrates understanding of time weighted averages and its use in determining workplace exposures
- Explain the hierarchy of controls and how it applies to exposure to chemical hazards in the workplace
- Review engineering controls, administrative controls and PPE and their roles in workplace exposures
- Explain silica exposure, what it is and where exposures occur and the hazards of such exposure and the OSHA standard for Silica
- Explain Lead exposure and the Lead Standard, what Lead is and where exposures occur and the hazards related to Lead
- Discuss what effect poor housekeeping can have on exposures to employees
- Demonstrate understanding of respiratory protection, when it must be used, what is required for the use of respirators
- Review Asbestos exposure and the specific OSHA standard for Asbestos, the requirements and how these are applied in the workplace
- Discuss air sampling, how levels are determined in the workplace

Bloodborne Pathogens

- Discuss what types of employees and situations lead to exposure to Bloodborne pathogens
- Understand what OSHA means by “reasonably anticipated” exposure and “good Samaritan”
- Explain how exposure occurs, what OSHA considers to be exposure and the listed exceptions to these
- Review the requirements for the Exposure Control Plan
- Prepare an exposure control plan based on several different scenarios
- Understand Universal Precautions, and how it is applied in different exposure situations
- Review engineering and work practice controls which apply to Bloodborne pathogens and when PPE must be used
- Importance of housekeeping, waste disposal and laundry procedures in relation to Bloodborne pathogens
- Hepatitis B vaccination (HBV) requirements for employees with blood or body fluid exposure will be covered in
- Understand post-exposure procedures
- Understand labeling requirements as it applies to containers and storage of waste, samples and specimens
- The training requirements under the standard will be discussed in detail, how this must be provided to employees and required recordkeeping
- Record keeping requirements under the standard, what must be recorded and how these records must be maintained will be covered in detail

Ergonomics

- A definition of Ergonomics will be discussed
- Common Musculoskeletal Disorders (MSDs) will be listed and described
- Identify Common Risk Factors in Tasks and determine methods to reduce hazards
- Discussion of OSHA Site Specific Targeting (SST) 1999 – 2014 injury types found - (many injuries were found to be ergonomic)
- Modification of tools, equipment or workstation to reduce hazards will be covered
- Discussion of factors that increase injury risk for MSDs
- Understanding of the postures or positions that can increase injury risk
- Description of PPE which can help to reduce MSDs will be covered
- Understanding of the hazards of working at Video Display Terminals and how to modify the position to reduce hazards
- Describe the role of localized Pressure as a risk factor in MSDs
- Discussion of lifting hazards, limits for various body positions with the NIOSH Manual Lifting recommendations
- A review of the hazards of vibration and impacts on MSDs will be covered

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