

Discipline: Manufacturing Technology

Degree Credit [X]
 Non Credit []
 Nondegree Credit []
 Comm Service []

Riverside Community College District Integrated Course Outline of Record

Manufacturing Technology 55

College: R___ M___ N___ X

MAN-55: Occupational Safety and Health Administration (OSHA) Standards for
 General Industry

Lecture Hours: 36
 Lab Hours: 0
 Units: 2.00

COURSE DESCRIPTION

Prerequisite: None.

Covers OSHA policies, procedures, and standards, as well as safety for general industry and health principles. Topics include scope and application of the OSHA general industry standards. Special emphasis is placed on those areas that are the most hazardous, using OSHA standards as a guide. Upon successful course completion, the student will receive either an OSHA 10 or 30 hour general industry or construction industry training completion card. 36 hours lecture. (Letter Grade, or Pass/No Pass option.)

SHORT DESCRIPTION FOR CLASS SCHEDULE

OSHA policies, procedures, and standards, as well as safety for general industry and health principles. Topics include scope and application of the OSHA for general industry.

ENTRY SKILLS

None.

STUDENT LEARNING OUTCOMES

Upon successful completion of the course, students should be able to:

Locate and apply OSHA Safety and Health standards, policies and procedures for general industry.

Utilize OSHA standards and regulations to supplement an ongoing safety and health program.

Identify common violations of OSHA standards and propose abatement actions.

Analyze the common causes of accidents and fatalities in hazardous areas of general industry.

COURSE CONTENT

The OSHA 30 hour certificate requires the hours be listed for each topic within the course content list.

1. Introduction to OSHA standards -- at least two hours for this section
 - a. OSHA Act – The Williams-Steiger Occupational Safety and Health Act of 1970 requires, in part, that employers under the Act furnish to his/her employees a place of employment which is free from recognized hazards that are likely to cause death or serious physical harm.
 - b. General Duty Clause 5 (a) (1) of the Williams-Steiger Occupational Safety and Health Act of 1970 has become known as “The General Duty Clause”. It is a catch all for citations if OSHA identifies unsafe conditions to which a regulation does not exist.
 - c. Inspection, Citations, and Penalties (CFR Part 1903). This section of the course details how inspections by the Department of Labor are conducted.
2. Walking and working surfaces, Subpart D (as labeled in the OSHA law) -- at least one hour for this section.
 - a. Slips, trips and falls constitute the majority of general industry accidents. They cause 15% of all accidental deaths, and are second only to motor vehicles as a cause of fatalities.
 - b. OSHA standards for walking and working surfaces apply to all permanent places of employment, except where domestic, mining or agricultural work only is performed.
3. Exit Routes, Emergency Action Plans, Fire Prevention Plans, and Fire Protection, Subparts E and L -- at least two hours for this section
 - a. Subpart E is about ensuring that people have a safe and efficient means of leaving a building or facility under emergency circumstances
 - b. Subpart L contains requirements for fire brigades, and all portable and fixed fire suppression equipment, fire detection systems and fire and employee alarm systems installed to meet the fire protection requirements of 29 CFR 1910.
4. Electrical, Subpart S -- at least two hours for this section
 - a. This subpart addresses electrical safety requirements that are necessary for the practical safeguarding of employees in their work.

In addition to the above students will be presented with at least 6 topics from the list below – the presentations of the 6 topics must add up to at least 14 hours:

1. Flammable and combustible liquids, Subpart H.
 - a. This standard applies to the handling, storage, and use of flammable and combustible liquids with a flash point below 200 degrees F.
2. Personal Protective Equipment, Subpart I.
 - a. Employers shall require employees to use appropriate personal protective equipment i.e. safety glasses, gloves, respiratory protection, etc. as required by the job/tasks.
3. Permit-Required Confined Spaces, Subpart J.
 - a. A permit-required confined space is one that meets the definition of a confined space and has one or more of these characteristics:
 - i. contains or has the potential to contain a hazardous atmosphere,
 - ii. contains a material that has the potential for engulfing and entrant,
 - iii. has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section, and/or
 - iv. contains any other recognized serious safety or health hazards.
4. Lockout/Tagout, Subpart J.
 - a. This standard covers the servicing and maintenance of machines and equipment in which the “unexpected” energization or start up of the machines or equipment, or release of stored energy could cause injury to employees.
5. Materials Handling, Subpart N.
 - a. More employees are injured in industry while moving materials than while performing any other single function.
6. Machine Guarding, Subpart O.
 - a. One or more methods of machine guarding shall be provided to protect employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks.
7. Welding, Cutting, and Brazing, Subpart Q.
 - a. Compressed gases for welding processes
8. Hazard Communication, Subpart Z.
9. Introduction to Industrial Hygiene/Blood-borne Pathogens, Subpart Z.
10. Ergonomics.
11. Recordkeeping, 29 CFR 1904. What types of records must be kept when someone is injured.
12. Safety and Health programs.

METHODS OF INSTRUCTION

Methods of instruction used to achieve student learning outcomes may include, but are not limited

to:

- Present class lectures/discussions/demonstrations in order to show students the importance of working safely in general industry. Lecture on course material will be the major instructional approach. Methods will alternate as needed to emphasize both theory and relevant application.
- Instructor led class discussion of challenging safety procedures and in class examples are used to demonstrate acceptable methods of compliance with regulations.
- A combination of delivery methods will be utilized, including instructor lecture, video presentations, and Power Point presentation.
- Instructor's computer and lab equipment will be used as sources for information for overhead video presentations, as well as industry standard safety videos.
- Students will work together to develop an example safety procedures for the workplace addressing a specific topic.
- Worksheets and tests will be given to provide the students opportunities to show their understanding of the topics presented in class.
- Homework problems will be assigned from the text and worksheets and be collected to demonstrate the students' understanding of assigned section of the OSHA Code of Federal Regulations (CFR)
- Partner and small group activities are used to encourage verbal expression of safety concepts.

METHODS OF EVALUATION

Students will be evaluated for progress in and/or mastery of learning outcomes by methods of evaluation which may include, but are not limited to:

- Assigned homework should be incorporated into the course grade. Graded homework will be evaluated based on completion in a timely manner, effort, use of Basic English writing skills, and accuracy.
- Exams and quizzes may contain an objective portion in which students are evaluated based on mastery of content. Evaluation of exams and quizzes will be based upon the OSHA standards and regulations.
- Written assignments designed to give the students experience in researching some aspect of OSHA standards and regulations.
- Oral reports/presentations/performances designed to allow the student to verbally demonstrate individual achievement of specific learning outcomes.

SAMPLE ASSIGNMENTS

Outside-of-Class Reading Assignments

- Students will read the following code sections
 - 1903, 1904, 1910.1-19 (Introduction to OSHA standards)

- 1910.21-30, (Walking and working surfaces, Subpart D)
- 1910.33-39 (Exit routes, Subpart E)
- 1910.176-184 (Materials handling and storage, Subpart N)
- 1910.66-68 (Powered Platforms, Manlifts, and vehicle-mounted work platforms, subpart F)
- 1910.155-163 (Fire protection, Subpart L)
- 1910.94-98, 1910.141-147, 1910.151-152, (Occupational Health)
- 1910.132-138 (Personal Protective Equipment)
- 1910.101-121 (Hazardous Materials, Subpart H)
- 1910.251-255 (Welding, Cutting and Brazing, Subpart Q)
- 1910.146 (Permit-required confined spaces)
- 1910.147 (lockout/tagout, Subpart J)
- 1910.301-399 (Electrical Safety, Subpart S)
- 1910.211-219 (Machinery and Machine Guarding, Subpart O)
- 1910.241-244 (Hand and portable powered tools and other hand-held equipment, Subpart P)

Outside-of-Class Writing Assignments

- Each student will be turning in a two page report (using correct references, either MLA or APA styles) detailing some aspect of occupational safety in industry.

Other Outside-of-Class Assignments

- Students will be required to read online power points from OSHA detailing OSHA rules and polices

COURSE MATERIALS

All materials used in this course will be periodically reviewed to ensure that they are appropriate for college level instruction. Possible texts include:

- . OSHA Standards for the Construction Industry. (29 CFR Part 1926). CCH Incorporated , 2012.
- . OSHA Standards for General Industry. (29 CFR Part 1910). CCH Incorporated , 2012.
- 10 hour general industry osha training. 360 training, Online ed.
- 30 hour general industry osha training. 360 training, Online ed.
- 30 hour construction industry osha training. 360 training, Online ed.

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