Course Description

Study of providing practical input about design ergonomics, desired safety features, and human factors. Examines how the OSH professional works with the designer to ensure the appropriate product, facility or equipment needed for a project.

Course Textbook


Chapter 8 comes from an OSHA publication on job hazard analysis.

MOS 5201 uses a custom textbook including only information used in this course, resulting in a more cost-effective textbook than typically available otherwise.

Course Learning Objectives

Upon completion of this course, students should be able to:

1. Explain the characteristics and qualities of the successful safety professional.
2. Explain the recognition, investigation, analysis, and control of hazards.
3. Complete a job hazard analysis.
4. Calculate injury frequency and severity rates.
5. Analyze management's role in safety and assess the importance.
6. Explain controls necessary for pressure safety.
7. Assess methods of controlling safety necessary during materials handling and storage.
8. Identify and explain how to recognize the multiple hazards associated with welding and operating in confined spaces.
9. Conduct a basic machine guarding assessment.
10. Explain the primary hazards associated with construction sites.
11. Explain controls necessary for electrical hazards.

Credits

Upon completion of this course, the students will earn three (3) hours of college credit.

Course Structure

1. **Unit Learning Objectives:** Each unit contains Unit Learning Objectives that specify the measurable skills and knowledge students should gain upon completion of the unit.
2. **Written Lectures:** Each unit contains a Written Lecture, which discusses lesson material.
3. **Reading Assignments:** Each unit contains Reading Assignments from one or more chapters from the textbook. Supplemental Readings are provided in the unit study guides to aid students in their course of study.
4. **Learning Activities (Non-Graded):** These non-graded Learning Activities are provided in Units I-III, VI, and VII to aid students in their course of study.
5. **Key Terms:** Key Terms are intended to guide students in their course of study. Students should pay particular attention to Key Terms as they represent important concepts within the unit material and reading.
6. **Discussion Boards**: Discussion Boards are a part of all CSU term courses. Information and specifications regarding these assignments are provided in the Academic Policies listed in the Course Menu bar.

7. **Units Assessments**: This course contains six unit assessments, one to be completed at the end of Units I-III and V-VII.

8. **Unit Assignments**: Students are required to submit for grading Unit Assignments in Units IV and V. Specific information and instructions regarding these assignments are provided below.

9. **Course Project**: This assignment will be submitted for grading in Unit VIII. Information and specifications for this assignment are provided in the syllabus below.

10. **Ask the Professor**: This communication forum provides you with an opportunity to ask your professor general or course content related questions.

11. **Student Break Room**: This communication forum allows for casual conversation with your classmates.

**Unit Assignments**

**Unit IV Article Critique**

The Article Critique for Unit IV is based on the following article:


The link to this article is provided here and in the Unit IV Study Guide. After you have read the assigned article, prepare answers to the following questions. Your response is expected to be 2-3 pages (double spaced), following the APA rules for formatting, quoting, paraphrasing, citing, and listing of sources.

**Questions:**

1. The author describes his role as a “safety man” in the construction industry. Describe the safety conditions that existed before the company was sold to the new owner.

2. Mundy described the period of time after the company's purchase by a new owner as a “new era”. Describe the safety initiatives introduced following the change in ownership.

3. Compare and contrast Mundy's role to that of the “safety man” described in Chapter 2 (page 26) of the textbook. How are the positions similar? Dissimilar?

To submit your completed Article Critique, follow the submission instructions in Unit IV. **Do not e-mail your paper directly to your professor.** By uploading into Blackboard, your university record will automatically be updated to indicate you have submitted your paper and it will be provided to your professor for grading.

**Unit V Case Study**

Choose one of the following options for this assignment. The Case Study should be thoroughly discussed in a minimum two-page paper based upon your readings. Any outside sources used to support your statements should be appropriately cited using APA style writing.

**Assignment Option 1**: Research a Case Study of your choosing as it relates to OSHA and Health Management and Engineering within this unit or to your professional career field. Summarize the Case Study, outline and describe the author’s main points, and provide your own critical analysis of the study. Include any questions or facts that you believe should have been addressed within the Case Study. Tie the Case Study to three objectives for this unit.

A good source of available Case Studies is the U.S. Chemical Safety Board (CSB) website: [http://www.csb.gov/](http://www.csb.gov/). Click on the “Investigations” tab to view current and completed investigations.

**Assignment Option 2**: Read the Case Study titled “Heat Exchanger Rupture and Ammonia Release in Houston, Texas” (No. 2008-06-I-TX). The Case Study can be found at the U.S. Chemical Safety Board website: [http://www.csb.gov/](http://www.csb.gov/). Click on the “Investigations” tab, and then click on “Completed Investigations.” Search for “Goodyear Heat Exchanger Rupture.” Open the Case Study under the “Documents” heading.

Once you finish reading the Case Study, answer the following questions based upon your readings on Pressure Hazards, Electrical Hazards, and Welding.

1. Summarize the sequence of events that led up to the disaster. What preventative measures would you have taken to make sure the pressure did not build up to the subsequent explosion?
2. Critique the accident investigation as it was performed by the government official. What other facts or steps would you need in order to make a proper assessment of the accident?
3. Why is it important to account for all personnel when an accident occurs? What steps could Goodyear management have made to ensure all employees were accounted for?
4. Conclude with your own thoughts on the Case Study. Did you agree or disagree with any methods the investigators used? Why are pressure and electrical hazards so dangerous?

Course Project

For the Course Project assignment, go to http://www.aws.org/technical/facts/index.html and review the American Welding Society (AWS) safety and health fact sheets. Answer the following questions on each:

1. Confined Spaces:

   **Question** - Compare and contrast the confined space recommendations made by the American Welding Society with those found in Chapter 13 of the textbook.

2. Chromium and Nickel in Welding Fumes:

   **Question** - Using other web resources, compare and contrast the AWS recommendations for controlling exposure to chromium and nickel welding fumes with those of other organizations. If you were the safety professional reviewing the hazards for manual welding involving exposure to these substances, what controls would you establish?

3. Thoriated Tungsten Electrodes:

   **Question** - What are the hazards of thorium? What is the source of thorium exposure during use of thoriated tungsten electrodes? What controls would you specify? Who would have to implement the AWS recommended controls for thorium exposure?

Students are required to submit the Course Project typed in MS Word or similar word processing software using the APA style format, double-spaced with 1-inch margins (top, bottom, and sides). Each answer should be approximately two pages in length. The project must be submitted in 12pt Times New Roman, and proper APA rules for formatting, quoting, paraphrasing, citing, and listing of sources are to be followed.

To submit your completed Course Project, follow the submission instructions in Unit VIII. **Do not e-mail your paper directly to your professor.** By uploading into Blackboard, your university record will automatically be updated to indicate you have submitted your paper and it will be provided to your professor for grading.

APA Guidelines

CSU requires that students use the APA style for papers and projects. Therefore, the APA rules for formatting, quoting, paraphrasing, citing, and listing of sources are to be followed. A document titled “APA Guidelines Summary” is available for you to download from the APA Guide Link, found in the Learning Resources area of the myCSU Student Portal. It may also be accessed from the Student Resources link on the Course Menu. This document provides links to several internet sites that provide comprehensive information on APA formatting, including examples and sample papers.

CSU Grading Rubric for Papers/Projects

The course papers will be graded based on the CSU Grading Rubric for all types of papers. In addition, all papers will be submitted for electronic evaluation to rule out plagiarism. Course projects will contain project specific grading criteria defined in the project directions. To view the rubric, click the Academic Policies link on the Course Menu, or by accessing the CSU Grading Rubric link, found in the Learning Resources area of the myCSU Student Portal.
**Communication Forums**

These are non-graded discussion forums that allow you to communicate with your professor and other students. Participation in these discussion forums is encouraged, but not required. You can access these forums with the buttons in the Course Menu. Instructions for subscribing/unsubscribing to these forums are provided below.

[Click here for instructions on how to subscribe/unsubscribe and post to the Communication Forums.](#)

**Ask the Professor**

This communication forum provides you with an opportunity to ask your professor general or course content questions. Questions may focus on Blackboard locations of online course components, textbook or course content elaboration, additional guidance on assessment requirements, or general advice from other students.

Questions that are specific in nature, such as inquiries regarding assessment/assignment grades or personal accommodation requests, are NOT to be posted on this forum. If you have questions, comments, or concerns of a non-public nature, please feel free to email your professor. Responses to your post will be addressed or emailed by the professor within 48 hours.

Before posting, please ensure that you have read all relevant course documentation, including the syllabus, assessment/assignment instructions, faculty feedback, and other important information.

**Student Break Room**

This communication forum allows for casual conversation with your classmates. Communication on this forum should always maintain a standard of appropriateness and respect for your fellow classmates. This forum should NOT be used to share assessment answers.

**Grading**

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<th>Component</th>
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<tr>
<td>Discussion Boards (8 @ 2%)</td>
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<td>Assessments (6 @ 8%)</td>
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<td>Article Critique</td>
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<td>Case Study</td>
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<td>Course Project</td>
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<td><strong>Total</strong></td>
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**Course Schedule/Checklist (PLEASE PRINT)**

The following pages contain a printable Course Schedule to assist you through this course. By following this schedule, you will be assured that you will complete the course within the time allotted.
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<tr>
<th>Unit I</th>
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<td>• Unit Study Guide</td>
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<td>• <strong>Learning Activities (Non-Graded):</strong> See Study Guide</td>
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<td><strong>Read:</strong></td>
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<td>• Chapter 1: Management and Its Responsibilities</td>
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<td>• Chapter 5: Accident Investigations</td>
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## Unit III
**Analyzing and Controlling Hazards**

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 7: Hazards and Their Control
- Chapter 8: Job Hazard Analysis
- Chapter 9: Safety Analysis
- **Supplemental Reading:** See Study Guide

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Assessment** by Tuesday, Midnight (Central Time)

### Notes/Goals:

## Unit IV
**Journal Article Critique**

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- **Journal Article:**
  - [http://online.columbiasouthern.edu/CSU_Content/Courses/Emergency_Services/MOS/MOS5201/12I/TheSafetyManCometh.pdf](http://online.columbiasouthern.edu/CSU_Content/Courses/Emergency_Services/MOS/MOS5201/12I/TheSafetyManCometh.pdf)
- **Supplemental Reading:** See Study Guide

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Article Critique** by Tuesday, Midnight (Central Time)

### Notes/Goals:
# Course Schedule

## Unit V  
**Pressure, Electrical, and Welding Safety**

### Review:
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

### Read:
- Chapter 10: Pressure Hazards
- Chapter 11: Electrical Hazards
- Chapter 12: Welding
- **Supplemental Reading:** See Study Guide

### Discuss:
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

### Submit:
- **Assessment** by Tuesday, Midnight (Central Time)
- **Case Study** by Tuesday, Midnight (Central Time)

## Notes/Goals:

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## Unit VI  
**Confined Spaces, Building Features, and Material Handling**

### Review:
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

### Read:
- Chapter 13: Confined-Space Entry
- Chapter 14: Buildings and Facilities
- Chapter 15: Materials Handling and Storage
- **Supplemental Reading:** See Study Guide

### Discuss:
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

### Submit:
- **Assessment** by Tuesday, Midnight (Central Time)

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### Notes/Goals:
### Unit VII: Machine Guarding, Noise and Construction Safety

#### Review:
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

#### Read:
- Chapter 16: Machine Guarding
- Chapter 17: Environmental Control and Noise
- Chapter 18: Construction
- **Supplemental Reading:** See Study Guide

#### Discuss:
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

#### Submit:
- **Assessment** by Tuesday, Midnight (Central Time)

### Unit VIII: Course Project

#### Review:
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

#### Read:
- **Supplemental Reading:** See Study Guide

#### Discuss:
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

#### Submit:
- **Course Project** by Tuesday, Midnight (Central Time)

Notes/Goals: