Course Description

Overview of regulations and issues in the occupational safety and health profession. Examines the underlying cause mechanisms of health and safety hazards, along with recordkeeping standards and analysis of injury and illness statistics.

Prerequisites

None

Course Textbook


Course Learning Objectives

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

1. Manage effective programs for worker safety and health in businesses and industry.
2. Describe an array of different approaches for dealing with workplace hazards.
3. Analyze and discriminate between alternative methods of compliance with standards and hazard avoidance.
4. Describe the costs of compliance as compared with the costs of Workers’ Compensation and the hidden costs of hazards.
5. Explain the design of facilities for compliance with standards and for controlling of hazards.
6. Summarize required procedures for recordkeeping and reporting to government agencies.
7. State the rationale for and the various safety and health issues underlying the provisions of established standards.
8. Provide practical application for scientific principles of physics, chemistry, and biological sciences learned earlier in their academic careers.
9. Describe the functions of OSHA, MSHA, NIOSH, EPA, and other federal agencies that conduct inspections and enforce standards.
10. Explain the basic process and the concept of national consensus standards, including the variance and appeals process.
11. Compare vertical with horizontal and specification with performance standards.
12. Explain the principles of safety and health that apply to their personal conduct at home and off the job, as well as on the job.

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 IV and VIII study guides to aid students in their course of study.

4. **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.

5. **Unit Quizzes**: This course contains six Unit Quizzes, one to be completed at the end of Units I-III and V-VII. It is suggested that the quizzes be completed before students complete the Unit Assessments. Quizzes are used to give students quick feedback on their understanding of the unit material and are composed of multiple-choice questions.

6. **Unit Assessments**: This course contains six Unit Assessments, one to be completed at the end of Units I-III and V-VII. Assessments are composed of matching questions and/or written response questions.

7. **Unit Assignments**: Students are required to submit for grading Unit Assignments in Units I-VII. Specific information and instructions regarding these assignments are provided below.

8. **Final Exam (Proctored)**: Students are to complete a comprehensive Final Exam in Unit VIII. All Final Exams are proctored—see below for additional information. You are permitted four (4) hours to complete this exam, in the presence of your approved proctor. This is an open book exam.

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

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

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**Unit Assignments**

**Unit I Case Study**

Read Case Study 2.2 in the course textbook (page 34). What are some possible causes for this accident? Consider both root causes and contributing causes. Based on your analysis, what are some possible preventive measures that could have been used?

Your response to these questions should be answered in Word, and your entire answer should be at least 350 words.

**Unit II Resource Guide**

Using case study 6.1 found on page 132-133 in your textbook as a guide, create hazardous chemical information for process safety analysis for the dangers of hydrochloric acid. You will need to use CSU library and the internet to find information regarding standard chemicals.

Make sure to cite your sources at the end of your document. Use Word to create your analysis.

**Unit III Mini Project**

Use the Internet to find information on the Triangle Shirtwaist Fire of 1911. List at least 4 building/facility standards in existence today that could have prevented this disaster from occurring, or at least reduced the number of fatalities.

Use Microsoft word to create your answers. Identify the standards and explain how these standards would have prevented the disaster. Your paper should be at least 500 words.

**Unit IV Article Critique**

The Article Critique for this course must be a minimum of two pages to a maximum of four pages in length, double-spaced, and must follow APA style. You are to choose from the journals and articles available in our CSU Library Databases. The article may deal with any of the material presented in the first three units of this course. However, if you have a specific area of interest that is covered later in the course, you may ask for professor approval. The article itself must be more than one page in length. The Article Critique must include the following components:

1. A brief introduction to the article
2. Summary and analysis of the key points in the article
3. Whether or not the article supports the concepts as presented in the textbook
4. Summary of the article’s conclusions and your own opinions
5. Full APA reference citation and in-text citations for the article
Some suggested topics might be:
- The organizational role of the safety professional
- The “business” of safety
- Hazard avoidance models
- Current regulatory trends in Occupational Safety and Health
- The safety professional's role in disaster preparedness
- Workplace standards
- Current occupational health issues

The EBSCO Database (Business Source Complete) is a good source of journals for safety related articles from the CSU Online Library.

**Unit V Mini Project**

An employer is having difficulty meeting the OSHA asbestos standard using engineering controls and is considering using administrative (work-practice) controls. Study current OSHA standards for asbestos and prepare a professional recommendation to this employer, citing appropriate sections of the OSHA standard to justify your position.

Your recommendation should be at least 500 words. Use Microsoft Word to create your recommendation.

**Unit VI Case Study**

A dirty process at a hot workstation requires a small ventilation fan to cool the face of the operator who is seated close to the point of operation. The problem is that the fan blades and wire mesh guard around the blades collect dirt and lint and frequently have to be taken apart and cleaned. Using principles of design from this chapter and previous chapters, suggest a design change to more effectively deal with this hazard, protecting the operator while reducing production maintenance costs.

Use Microsoft Word to make the design recommendations. You answer should be at least 300 words.

**Unit VII Safety Plan**

You are the safety and occupational health professional for your city’s Health Department. You received a call from a major food distribution warehouse that some employees are complaining of dizziness and feeling sick.

When you arrive on scene, you are in a very large warehouse, a significant portion of which is refrigerated. The illnesses are being reported from a refrigerated section (about 40 degrees F) where workers are blister packing food products on a production line. The warehouse has 20 loading docks, two railroad car lines that end directly inside the warehouse (in close proximity to the production area), a dozen or so gas powered forklifts, and no sensors or environmental monitors of any kind except those associated with the refrigeration systems.

The warehouse manager is cooperative, but he points out that he is in the middle of contract negotiations with the union. He is also very proud of the fact that they have special seals on the loading dock doors and throughout the warehouse to keep the cold in and the heat out.

You cannot identify any discernible odors other than the exhaust from the forklifts when they move by you. There are four ladies waiting for you in the break room complaining of dizziness and lightheadedness. They are all comparing and complaining about their symptoms. There are 14 employees who work in this area of the warehouse – 12 women and 2 men.

Instructions:

Based on the given scenario, develop a plan of action that includes how you would conduct the investigation, state how you would identify possible sources of the problem, and provide your opinion on the likely source. Discuss the standards applicable to possible sources. Include several recommendations you would make to the manager to help solve the problem based on your research into documented best practices for similar situations. (You may make assumptions about the scenario in order to propose solutions – just be certain to state your assumptions clearly).

The Case Study must be a minimum of four pages to a maximum of six pages in length, double-spaced, and should follow APA rules for formatting, quoting, paraphrasing, citing, and listing of sources. Use Microsoft Word to create your response to the case study.
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.

Final Examination Guidelines

Final Examinations are to be administered to students by an approved proctor on a date that is mutually convenient. The student is responsible for selecting a qualified proctor that must be approved by the university.

A list of acceptable proctors is provided in the Examination Proctor Policy. To review the complete Examination Proctor Policy including a list of acceptable proctors, proctor responsibilities, proctor approval procedures and the Proctor Agreement Form, go to the myCSU Student Portal from the link below.

http://mycsu.columbiasouthern.edu

You are permitted four (4) hours to complete this exam, in the presence of your approved proctor. This is an open book exam. Only course textbooks and a calculator, if necessary, are allowed when taking proctored exams.

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.

Once you have completed Unit VIII, you MUST unsubscribe from the forum; otherwise, you will continue to receive e-mail updates from the forum. You will not be able to unsubscribe after your course end date.

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

<table>
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<th>Component</th>
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<tr>
<td>Quizzes (6 @ 3%)</td>
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<tr>
<td>Assessments (6 @ 4.5%)</td>
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<td>Case Studies (2 @ 6%)</td>
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<td>Unit II Resource Guide</td>
<td>= 6%</td>
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<td>Mini Projects (2 @ 6%)</td>
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<td>Unit IV Article Critique</td>
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<td>Safety Plan</td>
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<tr>
<td>Final Exam (Comprehensive)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>=100 %</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.
### BOS 3001, Fundamentals of Occupational Safety and Health

#### Course Schedule

By following this schedule, you will be assured that you will complete the course within the time allotted. Please keep this schedule for reference as you progress through your course.

<table>
<thead>
<tr>
<th>Unit I</th>
<th>The Safety and Health Manager and Concepts of Hazard Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Review:</strong></td>
<td>□ Unit Study Guide</td>
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</table>
| **Read:** | □ **Chapter 1:** The Safety and Health Manager  
□ **Chapter 2:** Development of the Safety and Health Function  
□ **Chapter 3:** Concepts of Hazard Avoidance |
| **Submit:** | □ Quiz  
□ Assessment  
□ Case Study |

Notes/Goals:

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<thead>
<tr>
<th>Unit II</th>
<th>Federal Regulations, Information Systems, and Process Safety</th>
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<tbody>
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</table>
| **Read:** | □ **Chapter 4:** Impact of Federal Regulation  
□ **Chapter 5:** Information Systems  
□ **Chapter 6:** Process Safety and Disaster Preparedness |
| **Submit:** | □ Quiz  
□ Assessment  
□ Resource Guide  
□ Proctor Approval Form |

Notes/Goals:

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<tr>
<th>Unit III</th>
<th>Facility Safety, Ergonomics, and Health Hazards</th>
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<td>□ Unit Study Guide</td>
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</table>
| **Read:** | □ **Chapter 7:** Buildings and Facilities  
□ **Chapter 8:** Ergonomics  
□ **Chapter 9:** Health and Toxic Substances |
| **Submit:** | □ Quiz  
□ Assessment  
□ Mini Project |

Notes/Goals:
### Unit IV

**Mid-Term Review and Article Critique**

**Review:**
- ☐ Unit Study Guide

**Read:**
- ☐ Chapter 1 – 9: Review course material
- ☐ Supplemental Reading: See Study Guide

**Submit:**
- ☐ Article Critique

**Notes/Goals:**

### Unit V

**Environmental Hazards, Hazardous Materials, and Personal Protective Equipment**

**Review:**
- ☐ Unit Study Guide

**Read:**
- ☐ Chapter 10: Environmental Control and Noise
- ☐ Chapter 11: Flammable and Explosive Materials
- ☐ Chapter 12: Personal Protection and First Aid

**Submit:**
- ☐ Quiz
- ☐ Assessment
- ☐ Mini Project

**Notes/Goals:**

### Unit VI

**Fire Protection, Material Handling, and Machine Guarding**

**Review:**
- ☐ Unit Study Guide

**Read:**
- ☐ Chapter 13: Fire Protection
- ☐ Chapter 14: Materials Handling and Storage
- ☐ Chapter 15: Machine Guarding

**Submit:**
- ☐ Quiz
- ☐ Assessment
- ☐ Case Study

**Notes/Goals:**
## Course Schedule

### Unit VII: Welding, Electrical Safety, and Construction Hazards

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<td>☐ Chapter 17: Electrical Hazards</td>
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<td>☐ Chapter 18: Construction</td>
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### Unit VIII: End of Course Review

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<td></td>
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