Course Description

Introduces the design, specification, approving, testing, maintaining, and installing of fire protection systems. Examines a wide variety of simple and complex special hazard fire alarm systems through the use of real-world applications.

Course Textbook


Course Learning Outcomes

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

1. Demonstrate the impact of fire protection system design contracts on protecting life and property.
2. Apply ethical standards to situations regarding fire protection standards and requirements.
3. Explain how chemistry and the physics of fire influence the fundamental principles involved with fire, such as design criteria and installation requirements.
4. Differentiate the application procedures associated with low, medium, and high expansion foam systems.
5. Explain the role of emerging technologies, such as water mist and water spray systems in fire protection.
6. Explain the importance of the current methodology for designing and installing fire alarm initiating and notification systems.

Credits

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

Course Structure

1. **Unit Learning Outcomes:** Each unit contains Learning Outcomes that specify the measurable skills and knowledge students should gain upon completion of the unit.
2. **Unit Lessons:** Each unit contains a Unit Lesson, which discusses unit material.
3. **Reading Assignments:** Each unit contains Reading Assignments from one or more chapters from the textbook. Suggested Readings are listed in the Unit I study guide to aid students in their course of study. The readings themselves may or may not be provided in the course, but students are encouraged to read the resources listed if the opportunity arises as they have valuable information that expands upon the lesson material. Students will not be tested on their knowledge of the Suggested Readings.
4. **Discussion Boards:** Discussion Boards are part of all CSU term courses. More information and specifications can be found in the Student Resources link listed in the Course Menu bar.
5. **Unit Assignments:** Students are required to submit for grading Unit Assignments in Units I-VIII. Specific information and instructions regarding these assignments are provided below. Grading rubrics are included with the Unit I-VIII Assignments. Specific information about accessing these rubrics is provided below.
6. **Ask the Professor:** This communication forum provides you with an opportunity to ask your professor general or course content related questions.
7. **Student Break Room:** This communication forum allows for casual conversation with your classmates.
CSU Online Library

The CSU Online Library is available to support your courses and programs. The online library includes databases, journals, e-books, and research guides. These resources are always accessible and can be reached through the library webpage. To access the library, log into the myCSU Student Portal, and click on “CSU Online Library.” You can also access the CSU Online Library from the “My Library” button on the course menu for each course in Blackboard.

The CSU Online Library offers several reference services. E-mail (library@columbiasouthern.edu) and telephone (1.877.268.8046) assistance is available Monday – Thursday from 8 am to 5 pm and Friday from 8 am to 3 pm. The library’s chat reference service, Ask a Librarian, is available 24/7; look for the chat box on the online library page.

Librarians can help you develop your research plan or assist you in finding relevant, appropriate, and timely information. Reference requests can include customized keyword search strategies, links to articles, database help, and other services.

Unit Assignments

Unit I Essay

Write an essay demonstrating the importance of NFPA Standard 25 and how the standard positively influences fire protection and firefighter safety.

Your response must be at least one page in length, double spaced, and 12-point Times New Roman font. All sources used, including the textbook, must be referenced; paraphrased and quoted material must have accompanying APA citations.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit II PowerPoint Presentation

Visit a local business in your community. If it is not possible to visit, then choose a business you are familiar with. Identify the hazards within the occupancy and what type of fire protection system (FPS) would address the fire potential contained within the business.

Based on what you learned from the Charleston furniture store fire, create a 5- to 7-slide presentation that might convince the owner to implement an FPS. In at least one slide, list at least three ways in which the system would limit the development and spread of fire and toxic gases. Be sure to discuss any ethical situations where cost versus protection may be a factor.

You can use the information in your textbook as well as information from other reliable sources. Note: Unmonitored Websites such as Wikipedia are not acceptable. Be sure to cite any sources used in a reference slide, using proper APA formatting. You may also use the slide notes function to explain slide contents as necessary.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit III Essay

Write an essay discussing the benefits of residential sprinkler systems, in particular, water mist and water spray systems.

Your response must be at least one page in length, double spaced, and 12-point Times New Roman font. All sources used, including the textbook, must be referenced; paraphrased and quoted material must have accompanying APA citations.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit IV Essay

Write an essay outlining the proper water flow requirements for an NFPA 25 fire protection system (FPS) that is installed within a general purpose assembly (e.g., auditorium).
Unit V Essay

Write an essay describing how knowledge of water-only systems may influence the incident commander’s incident action plan.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit VI Essay

Write an essay describing the various uses of class A and B high expansion foam.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit VII Essay

Write an essay discussing how an obstruction could influence the operation of a fire protection system in a large, indoor self-storage facility. Discuss the differences between expected outcomes if the notification system worked properly and if the notification system failed and a fire did occur.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit VIII Article Review

For this assignment, review the topics you have studied in this course, and find a peer-reviewed article on a topic that interests you. You can use the databases in the CSU Online Library or another source that contains peer-reviewed articles. Write a minimum one-page review of the article that includes the following information:

- Briefly introduce and summarize the article.
- Identify the author’s main points.
- Who is the author’s intended audience?
- Were any specific issues addressed in the article? What were they?
- How does the information in the article apply to this course? Does it support the information in your textbook?
- How could the author expand on the main points?

Use APA style when writing your review as well as for in-text citations and references. Title and reference pages are not included in the page count.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.
APA Guidelines

The application of the APA writing style shall be practical, functional, and appropriate to each academic level, with the primary purpose being the documentation (citation) of sources. CSU requires that students use APA style for certain papers and projects. Students should always carefully read and follow assignment directions and review the associated grading rubric when available. Students can find CSU's Citation Guide by clicking here. This document includes examples and sample papers and provides information on how to contact the CSU Success Center.

Grading Rubrics

This course utilizes analytic grading rubrics as tools for your professor in assigning grades for all learning activities. Each rubric serves as a guide that communicates the expectations of the learning activity and describes the criteria for each level of achievement. In addition, a rubric is a reference tool that lists evaluation criteria and can help you organize your efforts to meet the requirements of that learning activity. It is imperative for you to familiarize yourself with these rubrics because these are the primary tools your professor uses for assessing learning activities.

Rubric categories include: (1) Discussion Board, (2) Assessment (Written Response), and (3) Assignment. However, it is possible that not all of the listed rubric types will be used in a single course (e.g., some courses may not have Assessments).

The Discussion Board rubric can be found within Unit I’s Discussion Board submission instructions.

The Assessment (Written Response) rubric can be found embedded in a link within the directions for each Unit Assessment. However, these rubrics will only be used when written-response questions appear within the Assessment.

Each Assignment type (e.g., article critique, case study, research paper) will have its own rubric. The Assignment rubrics are built into Blackboard, allowing students to review them prior to beginning the Assignment and again once the Assignment has been scored. This rubric can be accessed via the Assignment link located within the unit where it is to be submitted. Students may also access the rubric through the course menu by selecting “Tools” and then “My Grades.”

Again, it is vitally important for you to become familiar with these rubrics because their application to your Discussion Boards, Assessments, and Assignments is the method by which your instructor assigns all grades.

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

Discussion Boards (8 @ 2%) = 16%
Essays (6 @ 9%) = 54%
Unit II PowerPoint Presentation = 15%
Unit VIII Article Review = 15%
Total = 100%

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.
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.

## Unit I

**Fire Protection Systems: Silent Guardians**

<table>
<thead>
<tr>
<th>Review</th>
<th>Unit Study Guide</th>
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<tbody>
<tr>
<td>Read</td>
<td>- <strong>Chapter 1</strong>: Administration</td>
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<tr>
<td></td>
<td>- <strong>Chapter 2</strong>: Referenced Publications</td>
</tr>
<tr>
<td></td>
<td>- <strong>Suggested Reading</strong>: See Study Guide</td>
</tr>
<tr>
<td>Discuss</td>
<td>- <strong>Discussion Board Response</strong>: Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)</td>
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<td>- <strong>Discussion Board Comment</strong>: Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)</td>
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<tr>
<td>Submit</td>
<td>- <strong>Essay</strong> by Tuesday, 11:59 p.m. (Central Time)</td>
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**Notes/Goals:**

## Unit II

**Appliance Design and Application**

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<th>Review</th>
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<tbody>
<tr>
<td>Read</td>
<td>- <strong>Chapter 3</strong>: Definitions</td>
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<tr>
<td></td>
<td>- <strong>Chapter 4</strong>: General Requirements</td>
</tr>
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<td>Submit</td>
<td>- <strong>PowerPoint Presentation</strong> by Tuesday, 11:59 p.m. (Central Time)</td>
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**Notes/Goals:**

## Unit III

**Types and Kinds of Systems**

<table>
<thead>
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<th>Review</th>
<th>Unit Study Guide</th>
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<tbody>
<tr>
<td>Read</td>
<td>- <strong>Chapter 5</strong>: Sprinkler Systems</td>
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<td>- <strong>Chapter 6</strong>: Standpipe and Hose Systems</td>
</tr>
<tr>
<td>Discuss</td>
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**Notes/Goals:**
## Course Schedule

### Unit IV  Moving Water

**Review:**
- [ ] Unit Study Guide

**Read:**
- [ ] Chapter 7: Private Fire Service Mains
- [ ] Chapter 8: Fire Pumps
- [ ] Chapter 9: Water Storage Tanks

**Discuss:**
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
- [ ] **Essay** by Tuesday, 11:59 p.m. (Central Time)

### Notes/Goals:

### Unit V  Water-Only Systems

**Review:**
- [ ] Unit Study Guide

**Read:**
- [ ] Chapter 10: Water Spray Fixed Systems, pp. 323-346
- [ ] Chapter 12: Water Mist Systems, pp. 373-396

**Discuss:**
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
- [ ] **Essay** by Tuesday, 11:59 p.m. (Central Time)

### Notes/Goals:

### Unit VI  Foam Systems

**Review:**
- [ ] Unit Study Guide

**Read:**
- [ ] Chapter 11: Foam-Water Sprinkler Systems

**Discuss:**
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
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<thead>
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<th>Unit VII</th>
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<tr>
<td><strong>Review:</strong></td>
<td>□ Unit Study Guide</td>
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</tbody>
</table>
| **Read:** | □ Chapter 13: Valves, Valve Components, and Trim  
□ Chapter 14: Internal Piping Condition and Obstruction Investigation  
□ Chapter 15: Impairments |
| **Discuss:** | □ Discussion Board Response: Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)  
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<th>Special Circumstances</th>
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<tr>
<td><strong>Review:</strong></td>
<td>□ Unit Study Guide</td>
</tr>
<tr>
<td><strong>Read:</strong></td>
<td>□ Chapter 16: Special Requirements from Other NFPA Documents</td>
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