

Lassen Community College Course Outline

FS 4 Fire Protection Equipment and Systems

3.0 Units

I. Catalog Description

This course provides an introduction to the design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. This course has been approved for online, hybrid and correspondence delivery

Recommended Preparation: Successful completion of ENGL105 or equivalent multiple measures placement.

Transfers to CSU

51 hours of lecture, 102 expected outside of class hours, 153 Total Hours of Instruction

Scheduled: Fall (odd)

II. Coding Information

Repeatability: Not repeatable

Open Entry/Open Exit: NA

Grading Option: Graded

TOP Code: 2133.00

III. Course Objectives

A. Course Student Learning Outcomes

Upon completion of this course the student will be able to:

- 1) Describe smoke and fire movement in various types of building construction.
- 2) List organizations that provide information or service to fire protection systems.
- 3) List types, components and operation of automatic sprinkler and fire alarm systems.

B. Course Objectives

Upon completion of this course the student will be able to:

1. Describe smoke and fire movement in various types of building construction.
2. List organizations that provide information or service to fire protection systems.
3. Define types, classifications, and effectiveness ratings of fire extinguishers.
4. List the distribution, installation, and test requirements for fire extinguishers.
5. List types, components, and operation of fire protection systems and equipment for special hazards.
6. Identify water supply requirements, distribution systems, and testing for public and private fire protections.
7. Explain the application of hydraulic theory for fire protection.
8. List types, components and operation of automatic and special sprinkler systems.
9. List types of standpipe systems and water supply requirements.
10. Compare detection, alarm, and supervisory devices and systems.
11. Compare heat and smoke control devices and hardware.

IV. Course Content

1. Fire Cause and Effect Overview
2. Portable Fire Extinguishers
3. Characteristics of Protection Systems and Equipment for Special Hazards
4. Public and Private Water Supplies, Equipment, and Services for Fire Protection
5. Sprinkler Protection

- 6. Protective Signaling Systems
- 7. Standpipe Systems
- 8. Heat and Smoke Control Systems

V. Assignments

A. Appropriate Readings

Assigned readings in the textbook

B. Writing Assignments

Research papers on residential, commercial, industrial, and school sprinkler protection systems; operation of various types of fire sprinkler systems; fundamentals of fire prevention equipment.

C. Expected Outside Assignments

Reading of textbook and other materials on fire prevention equipment. Research for and writing research papers.

D. Specific Assignments that Demonstrate Critical Thinking

Analyze current requirements for residential fire sprinkler systems and their effect on fire prevention.

VI. Methods of Evaluation

Traditional Classroom Evaluation

Written homework, research papers and mixed format exams.

Online Evaluation

A variety of methods will be used, such as: research papers, asynchronous and synchronous discussions (chat/forum), exercises/assignments, online quizzes and exams, and postings to online website.

Correspondence Evaluation

Same as traditional classroom with the exception of the desired use of proctored exams. Students will be expected to complete assignments and activities equivalent to traditional classroom assignments and activities. Written correspondence and a minimum of six opportunities for feedback will be utilized to maintain effective communication between instructor and student.

Hybrid Evaluation

A combination of traditional classroom and online evaluations will be used. Traditional Classroom: exercises/assignments, mixed format exams and research papers. Online: exercises/assignments, online quizzes and exams, essay forum postings, and chat rooms.

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

Traditional Classroom Delivery Correspondence Delivery

Hybrid Delivery Online Delivery

Traditional Classroom Delivery

Lectures, Demonstration, Discussion

Online Delivery

Delivery includes the following: online written lectures, forum-based discussions, exercises/assignments contained on website, adding extra resources and other media sources as appropriate.

Correspondence Delivery

Assigned readings, instructor-generated typed handouts, lecture materials, exercises and assignments equal to traditional classroom delivery. Written correspondence and a minimum of six opportunities for feedback will be utilized to maintain communication between student and instructor.

Hybrid Delivery

A combination of traditional classroom and online instruction will be utilized. 26 hours will be taught through traditional classroom delivery by the instructor and the other 25 hours will be instructed online through the technology platform adopted by the District. Traditional class instruction will consist of lecture, demonstration, and discussion. Online delivery will consist of online written lectures, forum-based discussions, exercises/assignments contained on website, adding extra resources and other media sources as appropriate.

VIII. Representative Texts and Supplies

Jones, Maurice; *Fire Protection Systems*, 3rd edition 2021, Jones & Bartlett, ISBN 9781284180138

IX. Discipline/s Assignment

Fire Technology

X. Course Status

Current Status: Active

Original Approval Date: April 23, 1996

Revised by: Dan Weaver

Curriculum/Academic Standards Committee Revision Date: 09/20/2022