

Course Outline**COURSE:** JFT 160 **DIVISION:** 50 **ALSO LISTED AS:****TERM EFFECTIVE:** Spring 2022**CURRICULUM APPROVAL DATE:** 06/8/2021**SHORT TITLE:** Fire Protection Systems**LONG TITLE:** Fire Protection Systems

| <u>Units</u> | <u>Number of Weeks</u> | <u>Type</u> | <u>Contact Hours/Week</u> | <u>Total Contact Hours</u> |
|--------------|------------------------|---------------------|---------------------------|----------------------------|
| 3 | 18 | Lecture: | 3 | 54 |
| | | Lab: | 0 | 0 |
| | | Other: | 0 | 0 |
| | | Total: | 3 | 54 |
| | | Total Learning Hrs: | 162 | |

COURSE DESCRIPTION:

This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.

PREREQUISITES:**COREQUISITES:****CREDIT STATUS:** D - Credit - Degree Applicable**GRADING MODES**

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated**SCHEDULE TYPES:**

02 - Lecture and/or discussion

05 - Hybrid

71 - Dist. Ed Internet Simultaneous

72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

By the end of this course, a student should:

1. Describe the basic elements of a public water supply system as it relates to fire protection.
2. Identify and describe various types and uses of fire protection systems.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 06/8/2021

I. Introduction to Fire Protection Systems (2 hours)

A. The Role Fire Protection Systems Play in Protecting the Life, Safety and Welfare of the General Public and Firefighters

B. Overview of the Different Types of Fire Protection Systems

C. The Role of Codes & Standards in Fire Protection System Design

II. Water Supply Systems for Fire Protection Systems (10 hours)

A. Sources of Fire Protection Water Supply

B. Distribution Networks

C. Piping

D. Hydrants

E. Utility Company Interface with the Fire Department

III. Water-Based Fire Suppression Systems (9 hours)

A. Properties of Water

1. Water as an Effective Extinguishing Agent

2. How Water Extinguishes Fire

B. Sprinkler Systems

1. Types of Systems & Applications

2. Types of Sprinklers & Applications

3. Piping, Valves, Hangers & Alarm Devices

4. Fire Department Operations in Buildings with Sprinkler Systems

C. Residential Sprinkler Systems

D. Standpipe Systems

1. Types & Applications

2. Fire Department Operations in Buildings with Standpipes

E. Foam Systems

F. Water Mist Systems

G. Fire Pumps

1. Types

2. Components

3. Operation

4. Fire Pump Curves

IV. Non-Water-Based Fire Suppression Systems (8 hours)

A. Carbon Dioxide Systems

1. Applications
2. Extinguishing Properties
3. System Components

B. Halogenated Systems

1. Halon 1301 and the Environment
2. Halon Alternatives
3. Extinguishing Properties
4. System Components

C. Dry/Wet Chemical Extinguishing Systems

1. Extinguishing Properties
2. Applications
3. UL 300

V. Fire Alarm Systems (6 hours)

A. Components

B. Types of Fire Alarm Systems

C. Detectors

1. Smoke
2. Heat
3. Flame

D. Audible/Visual Devices E. Alarm Monitoring

E. Testing & Maintenance of Fire Alarm Systems

VI. Smoke Management Systems (10 hours)

A. Hazards of Smoke

B. Smoke Movement in Buildings

C. Types of Smoke Management Systems

D. Firefighter Operations in Buildings with Smoke Management Systems

VII. Portable Fire Extinguishers (6 hours)

A. Types & Applications

B. Selection

C. Placement

D. Maintenance

E. Portable Fire Extinguisher Operations

Final Exam (3 Hours)

METHODS OF INSTRUCTION:

Lecture, Discussion, Audio Visual Aid

OUT OF CLASS ASSIGNMENTS:

Required Outside Hours: 54

Assignment Description:

Writing assignments regarding fire suppression and protection systems.

Required Outside Hours: 54

Assignment Description:

Read Class Text

METHODS OF EVALUATION:

Writing assignments

Percent of total grade: 30.00 %

Written Homework Assignments

Objective examinations

Percent of total grade: 70.00 %

Quizzes, Exam

REPRESENTATIVE TEXTBOOKS:

A. Maurice Jones Jr.. Fire Protection Systems. MA: Jones and Barlett,2018.

ISBN: 9781284294170

Reading Level of Text, Grade: 12 Verified by: Doug Achterman

Required Other Texts and Materials

Instructor handouts and lab manual

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 201770

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department:

CSU Crosswalk Course Number:

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: C

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000578296

Sports/Physical Education Course: N

Taxonomy of Program: 213300