

Course Outline

COURSE: JFT 160 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2017 **Curriculum Approval Date:** 11/28/2016

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

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

STUDENT LEARNING OUTCOMES:

By the end of this course, a student should:

1. Identify and describe various types and uses of fire protection systems.

Measure of assessment: Written exam, Class Discussion

Year assessed, or planned year of assessment: 2017

Semester: Fall

2. Describe the basic elements of a public water supply system as it relates to fire protection.

Measure of assessment: Written Exam

Year assessed, or planned year of assessment: 2017

Semester: Fall

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

Curriculum Approval Date: 11/28/2016

I. Introduction to Fire Protection Systems

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

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

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

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
 - 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
 - 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
 - A. Types & Applications
 - B. Selection
 - C. Placement
 - D. Maintenance
 - E. Portable Fire Extinguisher Operations

METHODS OF INSTRUCTION:

Lecture, Discussion, Audio Visual Aid

METHODS OF EVALUATION:

Writing assignments

Percent of total grade: 30.00 %

Written Homework Assignments

Objective examinations

Percent of total grade: 70.00 %

Quizzes, Exam Methods of Instruction:

Lecture, Discussion, Audio Visual Aid

OUT OF CLASS ASSIGNMENTS:

Writing assignments regarding fire suppression and protection systems.

Read Class Text

REPRESENTATIVE TEXTBOOKS:

Required Representative Textbooks

A. Maurice Jones Jr.. Fire Protection Systems. MA: Jones and Barlett,2015.

ISBN: 9781284294170

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

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: JFT
CSU Crosswalk Course Number: 160
Prior to College Level: Y
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: C
Maximum Hours: 3
Minimum Hours: 3
Course Control Number:
Sports/Physical Education Course: N
Taxonomy of Program: 213300