

Course Outline

COURSE: JFT 130 **DIVISION:** 50 **ALSO LISTED AS:**

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

SHORT TITLE: BUILDING CONSTRUCTION FIRE

LONG TITLE: Building Construction for Fire Protection

<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 the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, pre- planning fire operations, and operating at emergencies.

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. Describe building construction as it relates to firefighter safety, building codes, fire prevention, code inspection, firefighter strategy and tactics.

Measure of assessment: Written Exam/ Discussion

Year assessed, or planned year of assessment: 2017

Semester: Fall

2. Analyze the hazards and tactical considerations associated with the various types of building construction.

Measure of assessment: Written Exam/ Discussion

Year assessed, or planned year of assessment: 2017

Semester: Fall

3. Identify the testing procedures used to establish ratings for fire resistance and flame spread

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

A. History of Building Construction

B. Governmental Functions, Building and Fire Codes

C. Fire Risks and Fire Protection

D. Fire Loss Management and Life Safety

E. Pre-fire Planning and Fire Suppression Strategies

II. Principles of Construction

A. Terminology and Definitions

B. Building and Occupancy Classifications

C. Characteristics of Building Materials

D. Types and Characteristics of Fire Loads

E. Effects of Energy Conservation

III. Building Construction

A. Structural Members

B. Structural Design and Construction Methods

C. System Failures

IV. Principles of Fire Resistance

A. Standards of Construction

B. Fire Intensity and Duration

C. Theory versus Reality

V. Fire Behavior versus Building Construction

A. Flame Spread

B. Smoke and Fire Containment

1. Construction and Suppression Systems

2. HVAC Systems

3. Rack Storage

4. Combustible

VI. Wood Construction

A. Definition and Elements of Construction

B. Types of Construction

C. Fire Stopping and Fire Retardants

D. Modifications/Code Compliance

VII. Ordinary Construction

A. Definitions and Elements of Construction

B. Structural Stability and Fire Barriers

C. Modifications/Code Compliance

VIII. Steel Construction

- A. Definitions and Elements of Construction
- B. Structural Stability, Fire Resistance and Fire Protection of Elements
- C. Modifications/Code Compliance

IX. Concrete Construction

- A. Definitions and Elements of Construction
- B. Structural Stability and Fire Resistance
- C. Modifications/Code Compliance

X. High Rise Construction

- A. Early versus Modern Construction
- B. Vertical and Horizontal Extension of Fire and Smoke
- C. Fire Protection and Suppression
- D. Elevators

E. Atriums/Lobbies

- F. Modifications/Code Compliance

XI. Collapse

XII. Ventilation

XIII. Non-Combustible

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

OUT OF CLASS ASSIGNMENTS:

Assignment Description: Read class text

Assignment Description: Written assignments regarding various types of building construction.

REPRESENTATIVE TEXTBOOKS:

Recommended Representative Textbooks

Glenn P. Corbett, Francis L. Brannigan, National Fire Protection Association. Brannigan's Building Construction for the Fire Service. Jones and Bartlett, 2015.

ISBN: 9781284136135

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: 130

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