



COURSE OUTLINE : FIRE 104
D Credit – Degree Applicable
COURSE ID 001484
Cyclical Review: MAY 2021

COURSE DISCIPLINE : FIRE

COURSE NUMBER : 104

COURSE TITLE (FULL) : Building Construction for Fire Protection

COURSE TITLE (SHORT) : Building Const./ Fire Protect

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID : FIRE 130 X – Building Construction for Fire Protection

ACADEMIC SENATE DISCIPLINE: Fire Technology

CATALOG DESCRIPTION

FIRE 104 provides the Fire Technology or other interested students with an understanding of the essential components used in building construction that directly relates to fire safety. The elements of construction and design of structures, factors when inspecting buildings, preplanning fire operations, and operating at emergencies will be discussed. The development and evolution of building and fire codes will be studied in relationship to past fires in residential, commercial, and industrial occupancies.

Total Lecture Units:3.00

Total Laboratory Units: 0.00

Total Course Units: 3.00

Total Lecture Hours:54.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 54.00

Total Out-of-Class Hours: 108.00

Recommended Preparation: ENGL 100 or ESL 151.



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ESL	151	Reading And Composition V	employ basic library research techniques;	Yes
2	ENGL	100	Writing Workshop	Read, analyze, and evaluate contemporary articles and stories to identify topic, thesis, support, transitions, conclusion, audience, and tone;	Yes

EXIT STANDARDS

- 1 define occupancy designations of the building;
- 2 name the construction classifications that correspond to designated occupancies;
- 3 differentiate between the loads and stresses that are placed on a building and their interrelationships;
- 4 list the structural members on various types of construction;
- 5 compare and contrast the structural members on various types of construction;
- 6 define flames spread, hazards, contributing factors, and possible solutions;
- 7 demonstrate fire inspection practices that are applicable to individual buildings;
- 8 analyze fire-fighting practices, hazards, and procedures that have developed for different types of construction;
- 9 identify the function of each major structural component in a typical building design;
- 10 differentiate between fire resistance and flame spread and describe the testing procedures used to establish ratings for each.

STUDENT LEARNING OUTCOMES

- 1 describe and classify occupancy designations of the building code;
- 2 describe theoretical concepts of how fire impacts major types of building construction;
- 3 identify potential structural failure as it relates to firefighter safety;

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction & History of building construction <ul style="list-style-type: none"> • Past building code • Current code requirements 	9	0	9



2	Principles of Construction <ul style="list-style-type: none"> • Building structures • Structural members • Types of loads on structures 	7	0	7
3	Building Construction <ul style="list-style-type: none"> • Definitions • Terminology • Role of Geographic Information Systems (GIS) 	6	0	6
4	Principles of Fire Resistance <ul style="list-style-type: none"> • Definition of fire resistance • Fire resistance testing 	6	0	6
5	Fire Behavior vs. Building Construction <ul style="list-style-type: none"> • Principles of fire behavior tied to construction type • Ventilation • Collapse 	5	0	5
6	Wood Construction <ul style="list-style-type: none"> • Type IV • Type V 	4	0	4
7	Ordinary Construction <ul style="list-style-type: none"> • Type I and Type II 	4	0	4
8	Steel Construction <ul style="list-style-type: none"> • Type II and Type III • Non-combustible construction 	4	0	4
9	Concrete Construction <ul style="list-style-type: none"> • Special consideration 	4	0	4
10	High Rise Construction	5	0	5
				54



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OUT OF CLASS ASSIGNMENTS

- 1 homework (e.g. vocabulary of different types of loads on building structures)
- 2 individual projects (e.g. written assignment tied to current building fires in modern structures)
- 3 group projects (e.g. problem solving demonstrations tied to building fires and related structure collapse concerns)

METHODS OF EVALUATION

- 1 Midterm Examination
- 2 Final Examination

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	ISBN	Date
Brannigan's Building Construction For The Fire Service	Required	Jones and Bartlett Publishers	6	eText	Glenn P. Corbett	978-1284177312	2019