

CATALOG INFORMATION

Dept and Nbr: FIRE 76

Title: BLDG FIRE PROTECT

Full Title: Building Construction for Fire Protection

Last Reviewed: 5/8/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:
This course is the study of the components of building construction that relate to fire safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at fires. The development and evolution of building and fire codes, and studies in relationship to past fires in residential, commercial, and industrial occupancies.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: FIRE 76 is a State mandated core course that identifies the different types of elements of construction and design that effect structural firefighting. (Grade Only)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1996
		Inactive:	
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

At the end of the course, the student will demonstrate the ability to:

1. Define occupancy designations of the building code.
2. Name the construction classification that correspond to designated occupancies.
3. Differentiate between the loads that are placed on a building and describe each type of load.
4. List and compare the structural members on various types of construction.
5. Define flame spread, it's hazards, contributing factors and possible solutions.
6. Demonstrate fire inspection practices that are applicable to individual buildings.
7. Identify firefighting practices and procedures that have developed for different types of construction.

Topics and Scope:

1. ORIENTATION
 - A. Attendance and grading
 - B. Course Overview
2. INTRODUCTION
 - A. History of building construction
 - B. Governmental functions, building & fire codes
 - C. Fire risks and fire protection
 - D. Fire loss management and life safety
 - E. Pre-fire planning and fire suppression strategies
3. 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
- 4. BUILDING CONSTRUCTION
 - A. Structural members
 - 1. Definitions, descriptions, and carrying capacities
 - 2. Effects of loads
 - B. Structural design & construction methods
 - C. System failures
- 5. PRINCIPLES OF FIRE RESISTANCE
 - A. Standards of construction
 - B. Fire intensity and duration
 - C. Theory vs reality
- 6. FIRE BEHAVIOR vs BUILDING CONSTRUCTION
 - A. Flame spread
 - B. Smoke and fire containment
 - 1. Construction and suppression systems
 - 2. HVAC systems
 - 3. Rack storage
- 7. WOOD CONSTRUCTION
 - A. Definitions and elements of construction
 - B. Types of construction
 - C. Fire stopping and fire retardants
- 8. ORDINARY CONSTRUCTION
 - A. Definitions and elements of construction
 - B. Structural stability and fire barriers
- 9. STEEL CONSTRUCTION
 - A. Definitions and elements of construction
 - B. Structural stability, fire resistance, and fire protection of elements
- 10. CONCRETE CONSTRUCTION
 - A. Definitions and elements of construction
 - B. Structural stability and fire resistance
- 11. HIGH RISE CONSTRUCTION
 - A. Early vs modern construction
 - B. Vertical and horizontal extension of fire and smoke
 - C. Fire protection and suppression

Assignment:

Written homework, essays and reports
Problem solving activity or exercise
Lab/Demonstrations

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework	Writing 10 - 20%
Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.	
Homework problems, Quizzes	Problem solving 5 - 10%
Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.	
Class performances	Skill Demonstrations 5 - 10%
Exams: All forms of formal testing, other than skill performance exams.	
Multiple choice, True/false	Exams 25 - 80%
Other: Includes any assessment tools that do not logically fit into the above categories.	
None	Other Category 0 - 0%

Representative Textbooks and Materials:

- (1) Penderghast, Building Construction Related To Fire Service, IFSTA, 2nd edition, 1999.
- (2) National Fire Protection Association Handbook, 18th edition, 1999.