

FIRE104 : Building Construction for Fire Protection

General Information

Author:	<ul style="list-style-type: none">Tracy Rickman
Course Code (CB01) :	FIRE104
Course Title (CB02) :	Building Construction for Fire Protection
Department:	FIRE
Proposal Start:	Spring 2025
TOP Code (CB03) :	(2133.00) Fire Technology
CIP Code:	(43.0201) Fire Prevention and Safety Technology/Technician.
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000547305
Curriculum Committee Approval Date:	05/22/2024
Board of Trustees Approval Date:	07/16/2024
Last Cyclical Review Date:	05/22/2024
Course Description and Course Note:	FIRE 104 provides Fire Technology and 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.
Justification:	Mandatory Revision
Academic Career:	<ul style="list-style-type: none">Credit
Mode of Delivery:	
Author:	Tracy Rickman
Course Family:	

Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none">Fire Technology
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

Not Applicable

Transferability

Transferable to CSU only

Transferability Status

Approved

C-ID	Area	Status	Approval Date	Comparable Course
FIRE	Fire Tehnology	Approved	08/31/2020	FIRE 130 X - Building Construction for Fire Protection

Units and Hours

Summary

Minimum Credit Units (CB07)	3
Maximum Credit Units (CB06)	3
Total Course In-Class (Contact) Hours	54
Total Course Out-of-Class Hours	108
Total Student Learning Hours	162

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience

Education Status (CB10)

Weekly Student Hours

	In Class
Lecture Hours	3

Out of Class

6

Course Student Hours

Course Duration (Weeks) 18

Hours per unit divisor 54

Laboratory Hours	0	0
Studio Hours	0	0

Course In-Class (Contact) Hours	
Lecture	54
Laboratory	0
Studio	0
Total	54

Course Out-of-Class Hours	
Lecture	108
Laboratory	0
Studio	0
Total	108

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

ESL151 - Reading And Composition V

Objectives

- Organize fully-developed essays in both expository and argumentative modes.
- Employ basic library research techniques.

OR

Advisory

ENGL101 - Introduction to College Reading and Composition

Objectives

- Develop varied and flexible strategies for generating, drafting, and revising essays.
- Find, evaluate, analyze, and interpret primary and secondary sources, incorporating them into written essays using appropriate documentation format.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction Discussion

Methods of Instruction Lecture

Methods of Instruction Guest Speakers

Methods of Instruction Presentations

Out of Class Assignments

- Homework (e.g. vocabulary of different types of loads on building structures)
- Individual projects (e.g. written assignment tied to current building fires in modern structures)
- Group projects (e.g. problem-solving demonstrations tied to building fires and related structure collapse concerns)

Methods of Evaluation

Exam/Quiz/Test

Exam/Quiz/Test

Rationale

Midterm Examination

Final Examination

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Glenn P. Corbett	Brannigan's Building Construction For The Fire Service	Jones and Bartlett Publishers	2019	978284177312

Other Instructional Materials (i.e. OER, handouts)

No Value

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Define occupancy designations of the building.

Name the construction classifications that correspond to designated occupancies.

Differentiate between the loads and stresses that are placed on a building and their interrelationships.

List the structural members on various types of construction.

Compare and contrast the structural members on various types of construction.

Define flames spread, hazards, contributing factors, and possible solutions.

Demonstrate fire inspection practices that are applicable to individual buildings.

Analyze fire-fighting practices, hazards, and procedures that have developed for different types of construction.

Identify the function of each major structural component in a typical building design.

Differentiate between fire resistance and flame spread and describe the testing procedures used to establish ratings for each.

SLOs

Describe and classify occupancy designations of the building code.

Expected Outcome Performance: 70.0

ILOs
Core ILOs

Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.

Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.

FIRE
Fire Technology - A.S.
Degree Major

discuss the skills required for fire prevention techniques.

Describe theoretical concepts of how fire impacts major types of building construction.

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.
	Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.
<i>FIRE</i> Verdugo Recruit Fire Academy	Discuss the skills required for fire prevention techniques; discuss the aspects of fire behavior
<i>FIRE</i> Fire Technology - A.S. Degree Major	discuss the aspects of fire behavior. discuss the skills required for fire-fighting tactics and strategy.
<i>FIRE</i> Verdugo Fire Academy - Certificate	discuss the aspects of fire behavior.
<i>FIRE</i> Fire Technology - Certificate	discuss the aspects of fire behavior.

Identify the indicators of potential structural failure as they relate to firefighter safety.

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.
	Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.
	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
<i>FIRE</i> Verdugo Recruit Fire Academy	Discuss the skills required for fire-fighting tactics and strategy
<i>FIRE</i> Fire Technology - A.S. Degree Major	discuss the skills required for fire prevention techniques. discuss the skills required for fire-fighting tactics and strategy.
<i>FIRE</i> Fire Technology - Certificate	discuss the skills required for fire-fighting tactics and strategy.
<i>FIRE</i> Verdugo Fire Academy - Certificate	discuss the skills required for fire-fighting tactics and strategy.

Course Content

Lecture Content

Introduction & History of Building Construction (9 hours)

- Past building code
- Current code requirements

Principles of Construction (7 hours)

- Building structures
- Structural members
- Types of loads on structures

Building Construction (6 hours)

- Definitions
- Terminology
- Role of Geographic Information Systems (GIS)

Principles of Fire Resistance (6 hours)

- Definition of fire resistance
- Fire resistance testing

Fire Behavior vs. Building Construction (5 hours)

- Principles of fire behavior tied to construction type
- Ventilation
- Collapse

Wood Construction (4 hours)

- Type IV
- Type V

Ordinary Construction (4 hours)

- Type I and Type II

Steel Construction (4 hours)

- Type II and Type III
- Non-combustible construction

Concrete Construction (4 hours)

- Special consideration

High Rise Construction (5 hours)**Total hours: 54****Additional Information**

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources**Did you contact your departmental library liaison?**

No

If yes, who is your departmental library liason?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No Value

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

No Value

If additional resources are needed, add a brief description and cost in the box provided.

No Value