

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

 X Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: FIRE 120 Building Construction for Fire Protection

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 48

BASIC SKILLS REQUIREMENTS: Appropriate language skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: None

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:

The study of the components of building construction that relate to fire/life safety. The development and evolution of building and fire codes will be studied in relationship to past fires/collapses in residential, commercial, and industrial occupancies. CSU

SPECIFIC COURSE OBJECTIVES:

The student will be able to:

1. Define occupancy designations of the building code.
2. Name the construction classifications 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, its 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.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Orientation
 - A. Attendance and Grading
 - B. Course Overview
- II. Introduction
 - A. History of Building Construction
 - B. Governmental Functions,
 - C. Fire Risks and Fire Protection
 - D. Fire Life Safety
 - E. Pre-fire Planning and Fire Suppression Strategies
- III. 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
- IV. Building Construction
 - A. Structural Members
 1. Definitions, Descriptions and Carrying Capacities
 2. Effects of Loads
 - B. Structural Design and Construction Methods
 - C. System Failures
- V. Principles of Fire Resistance
 - A. Standards of Construction
 - B. Fire Intensity and Duration

- C. Theory vs. Reality
- VI. Fire Behavior vs. Building Construction
 - A. Flame Spread
 - B. Smoke and Fire Containment
 - 1. Construction and Suppression Systems
 - 2. HVAC Systems
 - 3. Rack Storage
- VII. Wood Construction
 - A. Definitions and Elements of Construction
 - B. Types of Construction
 - C. Fire Stopping and Fire Retardants
- VIII. Ordinary Construction
 - A. Definitions and Elements of Construction
 - B. Structural Stability and Fire Barriers
- IX. Steel Construction
 - A. Definitions and Elements of Construction
 - B. Structural Stability, Fire Resistance and Fire protection of Elements
- X. Concrete Construction
 - A. Definitions and Elements of Construction
 - B. Structural Stability and Fire Resistance
- XI. High Rise Construction
 - A. Early vs. Modern Construction
 - B. Vertical and Horizontal Extension of Fire and Smoke
 - C. Fire Protection and Suppression
 - D. Compartmentation
- XII. Rack Storage
 - A. Ware Houses
 - B. Library's
 - C. Fire Department Actions
- 7. Methods of Instruction:
 - A. Lecture
 - B. Video-taped instruction and observation

- C. Assigned reading and written work
- D. Small group and individual participation in class discussions
- E. Essay

8. Assignments and Methods of Evaluation:

- A. Class Performance
- B. Skill Performance
- C. Field Work
- D. Quizzes
- E. Midterm
- F. Final Examination

REQUIRED READING:

Building Construction for the Fire Service. 3rd edition. Brannigan, Francis L.. Quincy, MA: National Fire Protection Association, 1992.

SUGGESTED READING:

International Conference of Building Officials. Uniform Building Code. 1994 edition. Whittier, CA: International Conference of Building Officials, 1994.

REQUIRED WRITING:

A 4-6 page paper will be assigned. The student will research building construction topical information as it relates to fire protection. Critical thinking and possible solutions to building construction problems will be required.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

Field trip to construction site to examine roof and floor assemblies and submit a written report of 1-2 pages on the effects of fire and fire spread upon such assemblies. Additionally, students will be required to prepare for all required exams.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes _____ No x

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

Each quiz @ 10%/ total	20%	of	final	grade
Midterm & Report	20%	"	"	"
Final exam	50%	"	"	"
Attendance	10%	"	"	"

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes ___ No xx Number of times course may be taken for credit:

Once.

If yes, identify specific provision of Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Brett Van Wey, ext2760

SIGNATURES:

Course outlines of record should be reviewed regularly and revised as necessary.

NOTE: Some revisions to course outlines of record require Curriculum Committee approval, others may not. Please consult your dean or the Instruction Office if you need assistance.

5/95: OUTDEG.FRM

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