

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 130 FIRE PROTECTION EQUIPMENT AND SYSTEMS

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:

Provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. CSU.

SPECIFIC COURSE OBJECTIVES:

The student will be able to:

1. Compare smoke and fire movement in various types of construction and the relationship to systems and equipment.
2. Describe organizations that provide information or service to fire protection systems.
3. Define types, classifications, and effectiveness ratings of fire extinguishers.
4. Describe distribution, installation, and test requirements for fire extinguishers.
5. Identify types, components, and operation of fire protection systems and equipment for special hazards.
6. Identify water supply requirements, distribution systems, and testing for public and private fire protection.
7. Explain the application of hydraulic theory for fire protection.
8. List types, components, and operation of automatic and special sprinkler systems.

9. Identify types of standpipe systems and water supply requirements.
10. Compare detection, alarm, and supervisory devices and systems.
11. Describe heat and smoke control devices and hardware.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. FIRE CAUSE AND EFFECT OVERVIEW
 - A. Hazards of Material
 - B. Building Construction
 - C. Heat and Smoke Control

- II. PORTABLE FIRE EXTINGUISHERS
 - A. Description and Classification
 - B. Effectiveness Ratings
 - C. Distribution and Installation
 - D. Types: Application, Operation, Inspection, Maintenance

- III. CHARACTERISTICS OF PROTECTION SYSTEMS AND EQUIPMENT FOR SPECIAL HAZARDS
 - A. General Arrangement and Equipment for Special Hazards
 - B. Carbon Dioxide Systems
 - C. Dry Chemical Systems
 - D. Foam: Mechanical, Chemical, AFFF
 - E. Foam: High Expansion
 - F. Emulsifiers and Chemical Surfactants
 - G. Water Spray Systems
 - H. Inert Gas Blanketing
 - I. Halogenated Hydrocarbon Agent Systems
 - J. Explosion Suppression Systems

- IV. PUBLIC AND PRIVATE WATER SUPPLIES, EQUIPMENT, AND SERVICES FOR FIRE PROTECTION
 - A. Elementary Principles of Hydraulics
 - B. Water Supplies for Community Fire Protection
 - C. Fire Protection Requirements for Public and Private Water Systems
 - D. Water Supply Testing Fundamentals

- V. SPRINKLER PROTECTION
 - A. Types of Sprinkler Systems
 1. Wet Pipe
 2. Dry Pipe
 3. Preaction
 4. Combined Dry Pipe and Preaction
 5. Deluge Sprinklers, High Density, Hydraulically Designed System
 - B. Standard Installation Requirements
 - C. Special Hazards and Installations Conditions
 - D. Exposure Protection
 - E. Plans Review Procedure
 - F. Inspection and Testing Procedures
 - G. Residential Sprinkler Systems

- VI. PROTECTION SIGNALING SYSTEMS
 - A. Local Signaling Systems
 - B. Auxiliary Signaling Systems
 - C. Proprietary Systems
 - D. Emergency Voice/Alarm Communications Systems
 - E. Central Station Systems
 - F. Types of Signals
 - G. Protective Signaling System Circuits
 - H. Interfacing with Municipal Signaling Systems

- VII. STANDPIPE SYSTEMS
 - A. Class I
 - B. Class II
 - C. Class III
 - D. Combined Systems

- VIII. HEAT AND SMOKE CONTROL SYSTEMS
 - A. Fire Doors, Windows & Walls
 - B. Fire Shutters
 - C. Smoke and Fire Dampers
 - D. Curtain Boards
 - E. Smoke Towers
 - F. Mechanical Roof Vents

REQUIRED READING:

International Fire Service Training Association. Private Fire Protection and Detection. 2nd edition. Stillwater, OK: Fire Protection Publications, 1994.

SUGGESTED READING:

1. Kote, Arthur, Ed. Fire Protection handbook. 17th edition. Quincy, MA: NFPA, 1991

REQUIRED WRITING:

A 4-6 page paper on topical material assigned by the instructor pertaining to fire protection equipment and systems.

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.

Students are expected to read assignments, master terminology and prepare for examinations.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

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

DISTANCE LEARNING:

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

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

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

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

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

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON:

Brett Vanwey *1703

SIGNATURES ON FILE
