



El Camino College  
COURSE OUTLINE OF RECORD – Official

<b>Course Acronym:</b>	FTEC
<b>Course Number:</b>	2
<b>Descriptive Title:</b>	Fire Prevention Technology
<b>Division:</b>	Health Sciences and Athletics
<b>Department:</b>	Fire and Emergency Technology
<b>Course Disciplines:</b>	Fire Technology
<b>Catalog Description:</b>	This course provides fundamental information regarding the history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use of fire codes; identification and correction of fire hazards. Also covered is the relationship of fire prevention with fire safety education, detection and suppression systems.
<b>Prerequisite:</b>	
<b>Co-requisite:</b>	
<b>Recommended Preparation:</b>	Fire and Emergency Technology 1 and eligibility for English 1A
<b>Enrollment Limitation:</b>	
<b>Hours Lecture (per week):</b>	3
<b>Hours Laboratory (per week):</b>	0
<b>Outside Study Hours:</b>	6
<b>Total Course Hours:</b>	54
<b>Course Units:</b>	3
<b>Grading Method:</b>	Letter Grade only
<b>Credit Status:</b>	Credit, degree applicable
<b>Transfer CSU:</b>	Yes
<b>Effective Date:</b>	Prior to July 1992
<b>Transfer UC:</b>	No
<b>Effective Date:</b>	
<b>General Education: ECC</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>CSU GE:</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>IGETC:</b>	

<b>Term:</b>	
<b>Other:</b>	
<b>Student Learning Outcomes:</b>	<p><b>SLO #1 Historical Fire Problems</b></p> <p>The Student will be able to define the historical fire problem and progress of fire prevention in the United States.</p> <p><b>SLO #2 Responsibility and Authority</b></p> <p>The student will be able to identify the responsibility and authority for fire prevention programs</p> <p><b>SLO #3 Fire Code Definitions</b></p> <p>The student will be able to identify definitions of the fire code and how they are applied in the fire prevention inspections.</p>
<b>Course Objectives:</b>	<ol style="list-style-type: none"> <li>1. Describe the origin and history of fire prevention efforts in the United States.</li> <li>2. Identify the basic fire prevention functions of a fire department.</li> <li>3. Identify the responsibility and authority for fire prevention inspections and related activities.</li> <li>4. Analyze the principles and procedures used to correct fire hazards.</li> <li>5. Identify occupancies and building construction types.</li> <li>6. Identify hazards of use, storage and transfer of flammable liquids and gases and other hazardous materials.</li> <li>7. Identify basic exiting requirements.</li> <li>8. Identify basic electrical fire hazards.</li> <li>9. Compare and contrast operational differences in sprinkler systems and special fixed fire protection systems.</li> <li>10. Identify operational benefits of standpipe systems.</li> <li>11. Analyze the operational benefits of detection and alarm systems.</li> <li>12. Examine the principles of placement, operation and inspection of portable fire extinguishers.</li> <li>13. Describe basic principles of fire cause determination as they relate to fire prevention and fire investigation.</li> <li>14. Identify the plan review function of a fire prevention bureau.</li> <li>15. Compare and contrast the relationship between fire safety education and fire prevention.</li> <li>16. Identify the importance of report preparation and records management in fire prevention efforts.</li> </ol>
<b>Major Topics:</b>	<p><b>I. HISTORY AND DEVELOPMENT OF FIRE PREVENTION (2 hours, lecture)</b></p> <p>A. Philosophy of fire prevention as a fire department function</p> <p>B. Early fire prevention efforts in America</p> <p>C. The insurance industry and fire prevention</p> <p>D. Fire disasters as an incentive for fire prevention efforts</p> <p>E. Relationship of fire prevention to reduction of life and property loss</p>

F. Trends in fire prevention

**II. FIRE PREVENTION ORGANIZATIONS (5 hours, lecture)**

A. Federal

1. United States Fire Administration
2. Department of Agriculture

B. State

1. California State Fire Marshal
2. California Department of Forestry and Fire Protection

C. Local

1. County fire departments
2. Municipal fire departments
3. Fire districts
4. Volunteer fire departments

D. Private

1. National Fire Protection Association
2. Underwriter's Laboratories
3. Factory mutual
4. Industrial

**III. ORGANIZATION OF A FIRE PREVENTION BUREAU (10 hours, lecture)**

A. Functions

1. Inspection
2. Code enforcement
3. Plan review
4. Public education
5. Fire investigation
6. Weed abatement
7. Records management

B. Fire prevention duties and responsibilities

1. Fire Chief
2. Fire Protection Engineer
3. Fire Marshal/Prevention Officer
4. Inspector, sworn
5. Inspector, civilian
6. Fire company member

C. Fire prevention tools of the trade

1. Uniform
2. Protective clothing
3. Vehicle(s)
4. Code books
5. Related reference publications
6. Printed forms
7. Computers (desk, notebook, vehicle)
8. Non-computerized files
9. Computerized files
10. Plan review materials
11. Camera
12. Hydrant flow test equipment
13. Explosion meter
14. Additional tools (measuring tape, flashlight, etc.)

**IV. BUILDING CODES AND FIRE PREVENTION (5 hours, lecture)**

A. Model Building Codes

1. Uniform Building Code
2. Building officials and code administrators

- 3. Standard Building Code
- 4. Additional codes
- 5. State Building Code (Title 24, CCR)

B. National Electric Code

C. Uniform Mechanical Code

D. Building department/fire department interface

**V. FIRE CODES AND FIRE PREVENTION (3 hours, lecture)**

A. Uniform Fire Code

- 1. Format
- 2. The permit system
- 3. The code as a "maintenance" document

B. Title 19, California State Code of Regulations

- 1. Regulations
- 2. State equivalent of Uniform Fire Code
- 3. Applicable to State buildings and others

C. National fire codes

D. Additional fire codes in the United States

**VI. STRUCTURAL ELEMENTS (2 hours, lecture)**

A. Building construction types

B. Occupancy classification

C. Exiting requirements

**VII. INSPECTION PROCEDURES (2 hours, lecture)**

A. Review of records

B. Additional preparation

C. The approach

D. The inspection tour

E. Identification and documentation of hazards

F. The exit interview

G. Follow-up

H. Reports

**VIII. IDENTIFICATION OF HAZARDS (10 hours, lecture)**

A. Common versus special hazards

B. Hazard types

1. Exiting
2. Structural deficiencies
3. Hazardous solids, liquids, gases
4. Electrical hazards
5. Building access

C. Non-structural hazards

1. Vegetation
2. Transportation
3. Outdoor storage
4. Rubbish

D. Deficiencies in fire protection equipment and systems fire protection equipment and systems

1. Fire extinguishers
2. Sprinkler systems
3. Detection and alarm systems
4. "Special" systems
5. Water supplies

**IX. ABATEMENT AND MITIGATION OF HAZARDS (5 hours, lecture)**

A. Authority for hazard correction

B. Legal and moral responsibilities of

C. Hazard control

D. Prioritizing hazards

E. Notices of violation

F. Plans of correction

G. The citation process

**X. FIRE INVESTIGATION (2 hours, lecture)**

A. Arson fees

B. Accidental fees

C. Cause and origin determination

**XI. PUBLIC FIRE SAFETY EDUCATION (3 hours, lecture)**

A. Exit drills

B. Fire watches

C. High-rise fire safety

D. Additional educational activities

E. Media relations

**XII. PLAN REVIEW (3 hours, lecture)**

A. Buildings

B. Fire protection systems

C. Water supplies

D. Underground flammable liquid tanks

E. Life safety systems

F. Residential subdivisions

**XIII. REPORT PREPARATION AND RECORDKEEPING (2 hours, lecture)**

A. Recording fire injuries, deaths and property losses

B. Measuring the effectiveness of the Fire Prevention Bureau

C. Computerized record keeping

D. Record keeping for inspections

	E. Periodic reports
<b>Total Lecture Hours:</b>	54
<b>Total Laboratory Hours:</b>	0
<b>Total Hours:</b>	54
<b>Primary Method of Evaluation:</b>	1) Substantial writing assignments
<b>Typical Assignment Using Primary Method of Evaluation:</b>	Write a two-page report which compares and contrasts the historical evolution of the philosophies of fire prevention as fire departments function from the beginning of the fire service to the present. Submit report to the instructor.
<b>Critical Thinking Assignment 1:</b>	Research, prepare and inspect a pre-approved business using a generic copy of a municipal inspection report. Report your findings on a two-page report and submit to the instructor.
<b>Critical Thinking Assignment 2:</b>	Analyze, prepare and present a two-page written report on the relationships between fire prevention efforts and the reduction of life and property loss. Submit report to the instructor.
<b>Other Evaluation Methods:</b>	Completion, Multiple Choice, Reading Reports, Term or Other Papers, True/False, Written Homework
<b>Instructional Methods:</b>	Field trips, Group Activities, Lecture, Multimedia presentations
<b>If other:</b>	
<b>Work Outside of Class:</b>	Answer questions, Problem solving activity, Required reading, Study, Written work (such as essay/composition/report/analysis/research)
<b>If Other:</b>	
<b>Up-To-Date Representative Textbooks:</b>	David Diamantes, <u>FIRE PREVENTION AND CODE ENFORCEMENT</u> , 4th ed., CreateSpace Independent Publishing Platform, 2015.  Qualifier Text: Discipline Standard
<b>Alternative Textbooks:</b>	
<b>Required Supplementary Readings:</b>	NATIONAL FIRE PROTECTION ASSOCIATION HANDBOOK, National Fire Protection Association, 2008.  Qualifier Text: Discipline Standard
<b>Other Required Materials:</b>	
<b>Requisite:</b>	
<b>Category:</b>	
<b>Requisite course(s): List both prerequisites and corequisites in this box.</b>	
<b>Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).</b>	



<b>Requisite Skill:</b>	
<b>Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable</b>	
<b>Requisite course:</b>	Fire and Emergency Technology 1
<b>Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).</b>	<b>Ability to recognize fire behavior and fire hazards.</b>  FTEC 1 - Compare and contrast the basic components of fire as a chemical reaction, the major phases of fire, and the main factors that influence fire spread and fire behavior.
<b>Requisite Skill:</b>	Eligibility for English 1A
<b>Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s). If applicable</b>	<b>This course involves writing fire related reports and reading college-level textbooks. To enhance a student's ability to succeed in this course, the following skills are recommended.</b>  Summarize, analyze, and synthesize college-level texts.  Write a well-reasoned and supported essay that demonstrates application of the academic writing process.
<b>Enrollment Limitations and Category:</b>	
<b>Enrollment Limitations Impact:</b>	
<b>Course Created by:</b>	Craig Neumann
<b>Date:</b>	02/01/1988
<b>Original Board Approval Date:</b>	
<b>Last Reviewed and/or Revised by:</b>	William Warren
<b>Date:</b>	03/20/2018
<b>Last Board Approval Date:</b>	12/19/2022