

# Fire Technology (FIRE)

Contact Public Safety Programs for further information, (760) 744-1150, extension 2287

## PROGRAM OFFERING

### Fire Technology

**Courses required for a Certificate or an A.A. Degree Major**  
Prepares students for a career in fire suppression, fire prevention and/or fire protection.

In order to earn a certificate, students must achieve a minimum **157**

grade of "C" in each of the certificate program courses.

#### Required Courses Units

FIRE 100 Fire Protection Organization 3  
FIRE 118 Fire Prevention Technology 4  
FIRE 120 Building Construction for Fire Protection 3  
FIRE 130 Fire Protection Equipment and Systems 3  
FIRE 165 Fundamentals of Fire Protection Chemistry 3

#### Elective Courses (Select 15 units)

FIRE 71 Trench Rescue .5  
FIRE 105 Fire Hydraulics 3  
FIRE 115 Hazardous Materials I 3  
FIRE 125 Fire Apparatus and Equipment 3  
FIRE 135 Fire Service Communication Systems 3  
FIRE 140 Fire Technology Records and Reports 3  
FIRE 145 Fire Fighting Tactics and Strategy 3  
FIRE 150 Fire Vehicle Maintenance 3  
FIRE 151 Fire Fighter I Academy 15  
FIRE 152 Driver Operator Academy 4.5  
FIRE 160 Wildland Fire Control I 3  
FIRE 168 Volunteer Fire Fighter Academy 4  
FIRE 170 Extrication 1,2,3,4  
FIRE 175 Fire Command IA 2  
FIRE 176 Fire Command IB 2  
FIRE 180 Fire Prevention IA 2  
FIRE 181 Fire Prevention IB 2  
FIRE 185 Fire Management I 2  
FIRE 190 Fire Investigation IA 2  
FIRE 193 Fire Instructor IA 2  
FIRE 194 Fire Instructor IB 2  
FIRE 197 Fire Technology Topics .5-5  
EME 105 Emergency Medical Technician 1 6  
CE 100 Cooperative Education 1,2,3,4  
TOTAL UNITS 31

Candidates for the Associate in Arts Degree or Certificate in Fire Technology may substitute the following courses, as indicated, for a total of eight units: CHEM 100 will substitute for FIRE 115; PHYS 115 or 120 or PHSC 100 will substitute for FIRE 165.

## COURSE OFFERINGS

### 71 Trench Rescue

*One and one-half hours laboratory (.5)*

Comprehensive instruction with extensive hands-on application of the techniques necessary to safely effect a rescue from an excavation or trenching cave-in. Topics include: critical considerations while responding to trenching emergencies; establishing and operating the Incident Command System; evaluation of cave-in scenes; specialized tool usage; shoring techniques; below grade safety procedures; patient packaging; and patient removal techniques. Upon successful completion of the course, students will receive a California State Fire Marshal certificate. *Grading: Credit/No Credit. May be taken four times.*

### 100 Fire Protection Organization

*Three hours lecture (3)*

Provides an introduction to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics. CSU

### 105 Fire Hydraulics

*Three hours lecture (3)*

**Recommended preparation: FIRE 100 and MATH 60**

Review of basic mathematics; hydraulic laws and formulas as applied to the fire service; application of formulas and mental calculation to hydraulic problems; water supply problems; underwriter's requirements for pumps. CSU

### 115 Hazardous Materials I

*Three hours lecture (3)*

A review of basic chemistry; storage, handling, laws, standards, and fire fighting practices pertaining to hazardous materials. CSU

### 118 Fire Prevention Technology

*Four hours lecture (4)*

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, and the relationships of fire prevention with built-in

fire protection systems, fire investigation and fire safety education. Provides skills necessary for California Fire Service Training and Education system, Certified Firefighter I and Fire Inspector I. Meets requirements for CFSTES Fire Prevention IA and IB classes. Contains knowledge required for State Fire Training, Firefighter I Certification. CSU

### 120 Building Construction for Fire Protection

*Three hours lecture (3)*

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

### 125 Fire Apparatus and Equipment

*Three hours lecture (3)*

Driving laws, driving technique, construction and operation of pumping engines, ladder trucks, aerial platforms, specialized equipment, and apparatus maintenance. CSU

### 130 Fire Protection Equipment and Systems

*Three hours lecture (3)*

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

### 135 Fire Service Communication Systems

*Three hours lecture (3)*

An introduction to the basic fire alarm operator's area of specialized knowledge, duties, and performance objectives. Installation, operation, and testing of fire alarm and communications systems. CSU

### 140 Fire Technology Records and Reports

*Three hours lecture (3)*

Fire department records systems, principles of report writing, applications in the area of pre-fire survey, post-fire reporting, research, and planning. CSU

### 145 Fire Fighting Tactics and Strategy

*Three hours lecture (3)*

Review of fire chemistry, equipment, and manpower; basic fire fighting tactics and strategy; methods of attack; preplanning fire problems. CSU

### 150 Fire Vehicle Maintenance

*Three hours lecture (3)*

Fundamentals of all vehicle structure. Basic construction of the vehicles, including the main powering systems (fire pumps excluded) and techniques of maintenance. CSU

### 151 Fire Fighter I Academy

*Thirty hours lecture/laboratory (15)*

**Prerequisite: EME 105 or certification as an EMT-1, and admission to the Fire Fighter I Academy program**

A 480-hour fire fighter academy course which will meet the requirements mandated by the California Office of State Fire Marshal for Certified Fire Fighter I training. Covers fire ground

procedures, tactics, strategy, safety methods, fire dynamics, equipment usage and deployment, and subject material pertaining to the role of fire fighters within the fire service. CSU

## **Fire Technology.158**

### **152 Driver Operator Academy**

*Nine hours lecture/laboratory (4.5)*

#### **Recommended preparation: FIRE 100 and 151**

Comprehensive instruction in all aspects of operating fire apparatus. This includes fire apparatus construction and maintenance; driving laws; safe driving practices; fire pump theory; fire pump service testing; hydraulic laws and formulas as applied to the fire service; developing effective fire streams; identification and use of the various hose, nozzles, and fittings used in the fire service; water supply; nationally recognized standards for fire apparatus and equipment. CSU

### **160 Wildland Fire Control I**

*Three hours lecture (3)*

Provides employed firefighters or fire service majors with a fundamental knowledge of the factors affecting wildland fire prevention, fire behavior, and control techniques. CSU

### **165 Fundamentals of Fire Protection Chemistry**

*Three hours lecture (3)*

#### **Recommended preparation: FIRE 100**

Provides the student with fundamental information and knowledge of the physical and chemical characteristics of matter, fire, hazardous materials, and basic extinguishment theory. CSU

### **168 Volunteer Fire Fighter Academy**

*Eight and one-half hours lecture/laboratory (4)*

Basic fire fighting skills needed to begin a career in the fire service. Meets State Fire Marshall requirements. CSU

### **170 Extrication**

*One hour lecture (1)*

Principles and procedures for safe removal of crash scene victims. Emphasizes life saving techniques, immobilization, and use of special equipment to extricate humans in emergency situations.

*Grading: Credit/No Credit. May be taken four times. CSU*

### **175 Fire Command 1A**

*Two hours lecture (2)*

Course provides instruction and simulation time to the participants while engaged in the initial decision and action processes at a working fire. The course includes discussion regarding the fire officer, fire behavior, fireground resources, operations, and management. CSU

### **176 Fire Command 1B**

*Two hours lecture (2)*

A descriptive analysis in tactics and strategies and scene management principles for incidents involving hazardous materials. Emphasizes identification and hazard mitigation, decontamination, protective clothing, environmental concerns, and legal issues. CSU

### **180 Fire Prevention 1A**

*Two hours lecture (2)*

Includes general fire inspection practices and responsibilities of fire prevention personnel. Essential equipment of code enforcement and procedures for correcting fire hazards. Fire extinguishers, fixed systems, and determination of operational readiness of these systems. CSU

### **181 Fire Prevention 1B**

*Two hours lecture (2)*

Includes the relationship of life safety codes and requirements to building construction principles and building occupancy classifications. The engineering solutions to various hazards, enforcing the solution, and public relations as affected by fire prevention in handling complaints. CSU

### **185 Fire Management I**

*Two hours lecture (2)*

Supervision and management, leadership styles and techniques, development of policies and procedures, time management, stress

management, and personnel appraisal and counseling guidelines. CSU

### **190 Fire Investigation 1A**

*Two hours lecture (2)*

Fire behavior and building construction, investigative techniques required for incendiary, accidental, fatal, vehicle, wildland, and juvenile fire investigations; procedures to collect and preserve physical evidence, and investigative report writing. CSU

### **193 Fire Instructor 1A**

*Two hours lecture (2)*

Standard State Board of Fire Services accredited course offered in community colleges. Basic information includes: occupational analysis, course outlines, concepts of learning, levels of instruction, behavioral objectives, using lesson plans, psychology of learning, and evaluation of effectiveness. Activities include student teaching demonstrations. CSU

### **194 Fire Instructor 1B**

*Two hours lecture (2)*

Standard State Board of Fire Services accredited course offered in community colleges. Advanced topics include: preparing course outlines, establishing levels of instruction, constructing behavioral objectives and lesson plans, instructional aid development, fundamentals of testing and measurements, tests planning, evaluation techniques and tools. Activities include student teaching demonstrations. CSU

### **197 Fire Technology Topics**

*Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule. (.5-5)*

A specified course of study for advanced students dealing with special problems, projects, or research in the Fire Technology area, with the prior approval of the instructor or required certification course offered by the State Fire Marshal for fire officers. *May be taken four times.* CSU

FOREIGN LANGUAGES - SEE Chinese, Tagalog, French, German, Italian, Japanese, Latin, Russian, and Spanish