

# FIRE TECHNOLOGY (FIRE)

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## **FIRE 1 Fire Protection Organization**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Careers in fire protection and related fields, history of fire protection, fire loss analysis, and public, quasi-public, and private fire protection services. Also includes specific fire protection functions and fire behavior, suppression, and extinguishment.

## **FIRE 2 Fire Prevention Technology**

**3 Units** (Degree Applicable, CSU, C-ID #: FIRE 110 X)

Lecture: 54

History of fire prevention, including codes, identification (ID) and correction of hazards, investigation, and public safety education.

## **FIRE 3 Fire Protection Equipment and Systems**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

Portable fire extinguishing equipment, sprinkler and standpipe systems, protection systems for special hazards, fire alarm and detection systems, maintenance, design and operation of sprinkler systems, water supply, pump, tanks, and connections.

## **FIRE 4 Building Construction for Fire Protection**

**3 Units** (Degree Applicable, CSU, C-ID #: FIRE 130 X)

Lecture: 54

Advisory: FIRE 1

Building construction and fire code safety effects on pre-planning, engineering, inspections, fire ground operations, fire and building codes relationships.

## **FIRE 5 Fire Behavior and Combustion**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

Theory of how and why fires start, spread and are controlled; in depth study of fire chemistry and physics, characteristics of materials, extinguishing of materials, extinguishing agents and fire control techniques.

## **FIRE 6 Hazardous Materials/ICS**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

Hazardous chemicals, their physical properties, use in industry, characteristics when involved in spills, fire, and accidents. Information regarding emergency procedures, legal requirements, compliance to regulations, health effects and treatment, and protocols that meet Occupational Safety and Health Administration (OSHA) requirements.

## **FIRE 7 Fire Fighting Tactics and Strategy**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1 or equivalent

Principles of fire control through utilization of staff, equipment and extinguishing agents, fire command and control procedures, understanding types of building construction as they relate to fire control, review of fire chemistry, pre-fire planning, organized approach to decision making on the fire scene, and basic firefighting strategies and tactics.

## **FIRE 8 Fire Company Organization and Management**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

Fire department company organization, management, leadership, company officer responsibilities, personnel issues, administration, communication, firefighter safety and wellness, firefighting capability, records, and reports.

## **FIRE 9 Fire Hydraulics**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1 or equivalent taken prior and eligibility for MATH 51

Mathematics, hydraulic laws, and formulas as applied to fire service. Application of formulas and mental calculation to hydraulic problems, water supply problems, and underwriter requirements for pumps.

## **FIRE 10 Arson and Fire Investigation**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1 or equivalent

Cause, origin, arson, incendiaries, related laws, and types of incendiary fires. Methods of determining fire cause, recognizing and preserving evidence, interviewing and detaining witnesses, adult and juvenile fire setters, court procedure, and testimony.

## **FIRE 11 Fire Apparatus and Equipment**

**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1 or equivalent

Mechanized equipment operated by fire service personnel and regulations pertaining to their use. Includes driving laws, driving techniques, construction and operation of pumping engines, ladder trucks, aerial platforms, specialized equipment, and apparatus maintenance.

## **FIRE 12 Wildland Fire Control**

**4.5 Units** (Degree Applicable, CSU)

Lecture: 65 Lab: 14

Advisory: Eligibility for ENGL 68

Addresses wildland fire behavior, safety considerations, strategy, tactics, and operational differences within the wildland urban interface. Field trip required.

**FIRE 13 Principles of Fire and Emergency Services Safety and Survival****3 Units** (Degree Applicable, CSU, C-ID #: FIRE 150 X)

Lecture: 54

Advisory: FIRE 1

Fire Technology principles. History of the National Firefighter Life Safety Initiative and need for cultural and behavioral change. This course meets the National Fire and Emergency Services Higher Education objectives as it pertains to firefighter safety and survival techniques used in today's fire service.

**FIRE 86 Basic Fire Academy****14.5 Units** (Degree Applicable)

Lecture: 135 Lab: 383

Prerequisite: FIRE 1 and FIRE 2 and FIRE 3 and FIRE 4 and FIRE 5 and (FIRE 13 or equivalent) and KIN 50 and (KINF 51 or KINF 52 or equivalent) and proof of EMT completion record

Corequisite: KINF 53

Standard fire department apparatus and equipment, salvage covers, and fire extinguishment techniques in accordance with the State Board of Fire Services. Prepares students to meet manipulative skills standards established by the local fire agencies, associations, and unions.

**FIRE 91 Fire Academy Ladder Orientation****1 Unit** (Not Degree Applicable)

(May be taken for Pass/No Pass only)

Lecture: 8 Lab: 32

Intensive training in ladder manipulation to prepare students for Fire Academy and physical fitness tests given by the fire departments.

**FIRE 93 Firefighter 1 Skills Review and Testing****1 Unit** (Not Degree Applicable)

(May be taken for Pass/No Pass only)

Lecture: 4 Lab: 36

Prerequisite: FIRE 86 Basic Fire Academy course completion

Review of skills learned in the basic fire academy in accordance with the State Fire Marshal Firefighter 1 curriculum. This course also provides the student the opportunity to take the National Capstone tests for International Fire Service Accreditation Congress (IFSAC) and National Board on Fire Services Professional Qualifications (Pro Board) certification. Successful completion of this course would provide the student with the opportunity to apply for employment outside the state of California with those states that offer reciprocity.

**FIRE 96 Work Experience Fire Science****1-4 Units** (Not Degree Applicable)

(May be taken for Pass/No Pass only)

Lab: 60-300

Prerequisite: Compliance with Work Experience regulations as designated in the College Catalog. Completion of a minimum of 12 units in Fire Science.

Work experience in fire service at an approved work site which is related to classroom instruction. A minimum of 75 paid or 60 non-paid clock hours per semester of supervised work is required for each unit of credit. It is recommended that the hours per week be equally distributed throughout the semester. This course is available to students achieving a minimum of 12 units in fire service.

**FIRE 100 Company Officer 2C: Fire Inspections and Investigations****1.5 Units** (Degree Applicable)

Lecture: 33 Lab: 7

Company Officer's role in fire prevention and investigation, the relationship between life safety and building construction, the elements of a quality company inspection program, determination of origin and cause of fire scene and how to address complex hazards encountered during an inspection.

**FIRE 101 Company Officer 2D All Risk Command Operations****1.5 Units** (Degree Applicable)

Lecture: 20 Lab: 20

Prerequisite: Fire Academy Course Completion Certificate and 200 online certificate and Hazardous Material Incident Commander (CSTI) Certification

Principles of command for the Company Officer including the development of incident priorities, strategy, tactics, safety, and the risk management process. An overview of Company Officer pre- and post-incident planning considerations, and crew roles and responsibilities. Each student will have the opportunity to gain experience through structure fire incident simulations and role play.

**FIRE 102 Company Officer 2B General Administrative Functions****1 Unit** (Degree Applicable)

Lecture: 15 Lab: 5

Company Officer 2B general administrative functions and the implementation of department policies and procedures. Addresses the fire department's role, image, and mission to the public.

**FIRE 103 Company Officer 2E : Wildland Incident Operations****1.5 Units** (Degree Applicable)

Lecture: 24 Lab: 16

Prerequisite: Fire Academy Course Completion Certificate and FIRE 101 and S-290 (classroom delivery only)

Principles of command in the wildland urban interface environment. Overview of the concepts of command safety and the risk management process, personnel qualifications, preincident planning considerations, command considerations at wildland incidents, fire behavior forecasting, firefighting limitations, key points from historic fires, the challenges of local conditions, and public expectations.

**FIRE 104 Instructional Methodology****1.5 Units** (Degree Applicable)

Lecture: 24 Lab: 16

This course is part of the Company Officer Certification track for the California State Fire Marshal. Methods and techniques for training in accordance with the latest concepts in career education; selecting, adapting, organizing, and using instructional materials appropriate for teaching cognitive lessons; criteria and methods to evaluate teaching and learning efficiency; and an opportunity to apply major principles of learning through teaching demonstrations.

**FIRE 107 Company Officer 2A: Human Resource Management for Company Officers****1.5 Units** (Degree Applicable)

Lecture: 33 Lab: 7

Company Officer 2A Human Resource Management for Company Officers course prepares or enhances the ability of the first line supervisor to supervise subordinates through the use of human resource management skills to accomplish assignment, evaluate member performance, and integrate health and safety plans, policies, and procedures into daily activities as well as the emergency scene.

**FIRE 108 ICS 300: Advance Incident Command****1 Unit** (Degree Applicable)

Lecture: 16 Lab: 8

Prerequisite: ICS 100 and ICS 200 online FEMA certificates

ICS 300 is part of the State Fire Marshal Officer Certification track and intended for persons serving as command staff, section chiefs, strike team leaders, task force leaders, unit leaders, division/group supervisors, branch directors, and multi-agency coordination system/emergency operations center staff. Topics include Incident Command System (ICS) staffing and organization, transfer of command, unified command functions in a multi-jurisdictional or multi-agency incident, ICS forms, resource management, interagency mission planning and procurement.