

FIRE TECHNOLOGY (FIRE)

FIRE WF87 Wildland Fire Academy

16 Units (Degree Applicable)

Lecture: 189 Lab: 297

Prerequisite: *KINF 51A or KINF 51B or KINF 52A or KINF 52B*

Corequisite: *KINF 53*

Advisory: *FIRE WF101 and FIRE WF102 and FIRE WF103 and FIRE WF104 and FIRE WF105*

This course is designed for students who want to gain certification as a wildland firefighter through the National Wildland Coordinating Group (NWCG). This course provides training in hand crew formation, fireline construction, and the use of wildland fire equipment. Certification is included in Human Factors in the Wildland Fire Service (NWCG L-180), Firefighter Training (NWCG S-130), Firefighter Type 1 (NWCG S-131), Introduction to Wildland Fire Behavior (NWCG S-190), Portable Pumps and Water Use (NWCG S-211), Firing Operations (NWCG S-219), Basic Air Operations (NWCG S-270), American Heart Association (AHA) First Aid/CPR/AED Certification, California Specialized Training Institute (CSTI) Hazardous Materials First Responder Awareness (FRA) and Hazardous Material Operations (FRO), and California State Fire Marshal (CSFM) Low Angle Rope Rescue Operations (LARRO). Students learn about wildland fire crews (engine crews, hand crews, hotshot crews, helitak crews, and smokejumpers), wildland fire behavior, wildland firefighter personal protective equipment, wildland firefighter safety, helicopter safety, dozer safety, wildland fire pumps, and wildland fire tools and firing devices. This course includes arduous physical conditioning including hiking with up to 45 pounds of weight and other strenuous outdoor activities. The academy exceeds the United States Forest Service (USFS) minimum training requirements for an entry-level wildland firefighter for certification purposes.

FIRE WF101 Wildland Fire Behavior

3 Units (Degree Applicable)

Lecture: 54

Corequisite: *FIRE 1 (may have been taken previously)*

One of the core classes required for the Wildland Fire Technology certificate and degree program. Provides students with basic working knowledge of wildland fire behavior, wildland fire predictions, and factors that affect safety during wildland fire operations. Serves as a foundation for future coursework, prepares the student for future jobs and/or education in the wildland fire suppression field, and develops students for career advancement in their specialty. The Wildland Fire Technology certificate and degree program meets the prerequisite requirements to apply for the United States Forest Service (USFS) Student Career Experience Program (SCEP).

FIRE WF102 Wildland Firefighter Safety and Survival

3 Units (Degree Applicable)

Lecture: 54

Advisory: *Eligibility for FIRE 1*

This course is one in a series of core courses required by the Wildland Fire Technology Certificate of Achievement and Associate of Science degree programs. The course provides students with information necessary to understand occupational safety and hazards associated with wildland firefighting operations. Emphasis is placed on situational awareness, protective measures, accident avoidance procedures, and the risk management process. Students also review fire ground near misses, entrapments, and fatalities. This course meets or exceeds the National Wildfire Coordinating Group (NWCG) requirements.

FIRE WF103 Wildland Fire Operations

3 Units (Degree Applicable)

Lecture: 54

Advisory: *Eligibility for FIRE 1*

One in a series of core courses required by the Wildland Fire Technology Certificate of Achievement and Associate of Science Degree programs. Provides students with information necessary to understand ground and air operations associated with wildland firefighting operations. Emphasis will be placed on incident command system use, strategy, tactics, hazards, resource typing, management, and safety procedures during wildland fire incidents. Meets or exceeds the National Wildfire Coordinating Group (NWCG) requirements.

FIRE WF104 Wildland Fire Investigation, Prevention, and Public Information

3 Units (Degree Applicable)

Lecture: 54

Advisory: *Eligibility for FIRE 1*

One in a series of core courses required by the Wildland Fire Technology Certificate of Achievement and Associate of Science degree programs. Provides students with information and skills necessary to understand the roles and functions of the Public Information Officer (PIO, S-203), Fire Prevention Education Team Member (PETM, P-101), and the Wildland Fire Investigator (INVF, FI-110). Various wildland fire associated class projects will challenge the student's public speaking, report writing, and presentation skills. This course meets or exceeds the National Wildfire Coordinating Group (NWCG) requirements.

FIRE WF105 Wildland Fire Logistics, Finance, and Planning

3 Units (Degree Applicable)

Lecture: 54

Advisory: *Eligibility for FIRE 1*

One in a series of core courses required by the Wildland Fire Technology Certificate of Achievement and Associate of Science degree programs. Provides students with information necessary to understand the responsibilities and functions of the logistics, finance, and planning sections. Emphasis is placed on how the different incident command system sections are organized and utilized during wildland fire incidents. Meets or exceeds the National Wildfire Coordinating Group (NWCG) requirements.

FIRE 1 Fire Protection Organization

3 Units (Degree Applicable, CSU)

Lecture: 54

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; 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; life safe initiatives

FIRE 2 Fire Prevention Technology**3 Units** (Degree Applicable, CSU, C-ID #: FIRE 110 X)

Lecture: 54

This course provides fundamental knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation.

FIRE 3 Fire Protection Equipment and Systems**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

Provides information relating to the features of design and operation of the fire alarm systems; water based fire suppression systems; specialized hazard fire suppression systems; water supply for fire protection and portable fire extinguishers.

FIRE 4 Building Construction for Fire Protection**3 Units** (Degree Applicable, CSU, C-ID #: FIRE 130 X)

Lecture: 54

Advisory: FIRE 1

Provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

FIRE 5 Fire Behavior and Combustion**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

Explores the theories and fundamentals 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

Provides basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health encountered by emergency services. Provides 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

This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents. Additionally, it provides principles of 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

Introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service ethics and leadership from the perspective of the company officer.

FIRE 9 Fire Hydraulics**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1 and eligibility for MATH 51

Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and solve water supply problems.

FIRE 10 Arson and Fire Investigation**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

Provides students with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes.

FIRE 11 Fire Apparatus and Equipment**3 Units** (Degree Applicable, CSU)

Lecture: 54

Advisory: FIRE 1

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: 81

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

This course introduces the basic principles and history related to the National Firefighter Life Safety Initiatives; focusing on the need for cultural and behavior change throughout the emergency services. This course meets criteria of 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: 144 Lab: 377

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 51A or KINF 51B or KINF 52A or KINF 52B or equivalent) and proof of EMT completion record

Corequisite: KINF 53

This course prepares students for an entry level position as a firefighter. Includes Firefighter I training in the areas of structural firefighting, hazardous materials, and wildland firefighting. Upon successful completion of the course, students will earn a State Firefighter I certification and be eligible for the State Firefighter II certification.

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

(May be taken for Pass/No Pass only)

Lecture: 9 Lab: 31

Prerequisite: Students need to be enrolled in the Fire Academy

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: 9 Lab: 27

Prerequisite: FIRE 86 Basic or equivalent as determined by the Director of Public Safety Programs

Review of skills learned in the basic fire academy in accordance with the State Fire Marshal Firefighter 1 and 2 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**2 Units** (Degree Applicable)

Lecture: 40

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**2 Units** (Degree Applicable)

Lecture: 40

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: 20

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**2 Units** (Degree Applicable)

Lecture: 40

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, pre-incident 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**2 Units** (Degree Applicable)

Lecture: 40

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**2 Units** (Degree Applicable)

Lecture: 40

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: 20

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.