

# FIRE SCIENCE TECHNOLOGY (FS)

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## **FS100 Principles of Emergency Services** 4 credits (4 lec hrs/wk)

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 safety initiatives.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS105 Firefighter Fundamentals I** 2 credits (4 lec lab hrs/wk)

The purpose of this course is to teach the student how to be a professional in the fire service. Topics include fire service culture, regulations, expected behaviors, dress and appearance, among others. Students will be introduced to a professional network and given an opportunity to serve a community.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS110 Firefighter Fundamentals II** 2 credits (4 lec lab hrs/wk)

The purpose of this course is to teach the student how to be a professional in the fire service. Topics include tools and equipment, certification, resume development, interview skills, among others. Students will be introduced to a professional network and given an opportunity to serve a community.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS115 Firefighter Fundamentals III** 2 credits (4 lec lab hrs/wk)

The purpose of this course is to teach the student how to be a professional in the fire service. Topics include fire apparatus, maintenance, ongoing training, professional development, among others. Students will be introduced to a professional network and given an opportunity to serve a community.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS120 Building Const Related to Fire Svc** 3 credits (3 lec hrs/wk)

Prerequisite(s): ( FS100 )

This course 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.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS121 Fire Behavior and Combustion** 3 credits (3 lec hrs/wk)

This course explores the theories and fundamentals of how and why fires start, spread, and are controlled.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS123 Structural Firefighter I** 4 credits (8 lec lab hrs/wk)

This course provides students with the knowledge, skills, and abilities required for Firefighter I (structural firefighting).

This course may be taken 1 time for credit.

Course classification: CTE

## **FS125 Principles of Fire and Emergency S** 4 credits (4 lec hrs/wk)

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 may be taken 1 time for credit.

Course classification: CTE

## **FS127 Structural Firefighter II** 2 credits (4 lec lab hrs/wk)

This course provides students with the knowledge and skills required for the Firefighter II level (structural firefighting).

This course may be taken 1 time for credit.

Course classification: CTE

## **FS130 Fire Apparatus Driver/Operator** 1 credit (2 lec lab hrs/wk)

This course provides students with the knowledge and skills required to safely drive/operate a fire apparatus.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS131 Wildland Firefighter Type 2** 3 credits (1 lec, 4 lec lab hrs/wk)

This course provides students with the knowledge and skills required to gain an entry level position in the fire service (wildland).

This course may be taken 1 time for credit.

Course classification: CTE

## **FS133 S-215 Fire Operations in the Wildla** 2 credits (2 lec hrs/wk)

The purpose of this course is to educate students to operate safely and effectively in a wildland/urban interface incident by using situation awareness, performing structure triage, using pre-planning tools, having a basic understanding of fire behavior, and using strategy and tactics unique to the wildland/urban interface environment (wildland).

This course may be taken 1 time for credit.

Course classification: CTE

## **FS135 Fire Apparatus Aerial Operator** 2 credits (1 lec, 2 lec lab hrs/wk)

This course provides students with the knowledge and skills required to safely drive/operate a fire apparatus equipped with an aerial device.

This course may be taken 1 time for credit.

Course classification: CTE

## **FS137 S-131 Wildland Firefighter Type 1** 1 credit (1 lec hrs/wk)

This course provides students with the knowledge and skills required to meet the training needs of the Firefighter Type 1 (wildland).

This course may be taken 1 time for credit.

Course classification: CTE

## **FS139 S-290 Intermediate Wildland Fire Be** 3 credits (3 lec hrs/wk)

This course provides students with wildland fire behavior knowledge applicable for safe and effective wildland fire management activities (wildfires, fire use, and prescribed fire).

This course may be taken 1 time for credit.

Course classification: CTE

## **FS141 S-230 Crew Boss (Single Resource)** 3 credits (3 lec hrs/wk)

This course provides students with knowledge and skills in the performance of duties associated with the single resource boss position from initial dispatch through demobilization to the home unit (wildland).

This course may be taken 1 time for credit.

Course classification: CTE

**FS143 S-212 Wildland Fire Chain Saws** 2 credits (1 lec, 2 lec lab hrs/wk)  
This course provides students with an introduction to the function, maintenance, and use of internal combustion engine-powered chain saws and their tactical wildland fire application.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS180 Internship: Fire Science** 1-12 credits (3 lab hrs/wk/cr)  
Prerequisite(s): Instructor consent  
Practical on-site experience that will allow students to explore workplace environments and career options.  
This course may be taken 12 times for credit.  
Course classification: LDC

**FS200 Strategy and Tactics** 3 credits (3 lec hrs/wk)  
Prerequisite(s): (FS100)  
This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS202N Field Training and Evaluation Progr** 2 credits (2 lec hrs/wk)  
The Field Training & Evaluation Program (FTEP) course is designed to provide formal training and practical information for personnel who will become Field Training Officers in their police department. The course, through reference to the "San Jose Model", will consider specific teaching methods applicable to adult learners, performance evaluations using standardized rating procedures, remedial training techniques, and legal issues in recruit training, as well as ethics, leadership, communication, evaluation, retention and dismissal. The instructors for the program are seasoned law enforcement practitioners with advanced academic experiences.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS205 Fire Prevention** 3 credits (3 lec hrs/wk)  
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.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS210 Hazardous Materials for First Respo** 2 credits (2 lec hrs/wk)  
This course provides students with the knowledge and skills required to respond to and operate at hazardous materials incidents.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS215 Legal Aspects of Emergency Services** 2 credits (2 lec hrs/wk)  
This course will address the federal, state, and local laws that regulate emergency services and include a review of national standards, regulations, and consensus standards.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS220 Fire Protection Systems** 3 credits (3 lec hrs/wk)  
This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS222 Fire Instructor I** 3 credits (3 lec hrs/wk)  
This course provides students with the knowledge and skills required to instruct in the fire service.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS223 Fire Instructor II** 3 credits (3 lec lab hrs/wk)  
Prerequisite(s): (FS222)  
This course provides students with the knowledge and skills required to manage a training program, develop curriculum, and deliver instruction in the fire service.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS225 Prin of Fire & Emerg Service Admin** 3 credits (3 lec hrs/wk)  
Prerequisite(s): (FS100)  
This course 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.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS230 Fire Apparatus Pumper/Operator** 2 credits (4 lec lab hrs/wk)  
This course provides students with the knowledge and skills required to safely drive/operate a fire apparatus equipped with a fire pump.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS231 Fire Protection Hydraulics and Wate** 3 credits (3 lec hrs/wk)  
Prerequisite(s): (MTH60)  
This course 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 to solve water supply problems.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS232 Occupational Safety and Health ES** 3 credits (3 lec hrs/wk)  
This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations.  
This course may be taken 1 time for credit.  
Course classification: CTE

**FS246 Topics in Wildland Fire** 3 credits  
Wildland fire is having increasing impacts on human communities and ecoregions in western north America and beyond given changes in climatic patterns and land use. Issues include both unwanted wildfire losses and the historical natural role fire plays in forest and rangeland ecology. Interwoven with these issues are increasing dilemmas surrounding fire at the urban and rural interfaces, as well as the use of fire as a land management tool. The overarching goal of this course is to provide a broad understanding of wildland fire science as it impacts society, with an emphasis on critical thinking about its changing ecological and social roles.  
This course may be taken 1 time for credit.  
Course classification: LDC

**FS280 CWE: Fire Science** 1-12 credits (3 lab hrs/wk/cr)

Prerequisite(s): Instructor consent

Practical on-site experience that will allow students to test knowledge learned in the classroom and explore a variety of workplaces in which to apply that knowledge.

This course may be taken 12 times for credit.

Course classification: LDC