

FIRE TECHNOLOGY



The Fire Technology department offers multiple programs and academies that prepare students for entry-level employment and/or potential further study in the fields of Fire Technology. Students completing these degrees/certificates will acquire a skill set that includes manipulative and technical training in the basic concepts of fire service organization, theories of fire control, laws and regulations affecting fire service personnel and fire organizations, principles of fire behavior and fire strategy and tactics.

Career opportunities upon successful completion of this degree include firefighter, fire investigation, fire prevention, hazardous materials, and public education.

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Associate Degree

- Associate of Science in Fire Technology (AS) (<https://catalog.cos.edu/areas-study/fire-technology/associate-science-fire-technology-not-for-transfer-as/>)

Certificates

- Certificate of Achievement in Fire Technology (<https://catalog.cos.edu/areas-study/fire-technology/certificate-achievement-fire-technology/>)

For a complete list of courses and descriptions visit: COURSES (<https://catalog.cos.edu/course-descriptions/>)

FIRE 125 Fundamentals of Fire Apparatus and Equipment 3unit(s)

Hours: 3 Lecture/Discussion

This class is designed to provide students with information regarding design features, construction materials, performance factors, and maintenance requirements for motorized fire apparatus. Topics include laws, standards and regulations, design, construction, and maintenance requirements for fire apparatus. Operational considerations including tactics and strategy, safety and driving characteristics of pumping apparatus, aerial ladders, aerial platforms and specialized equipment are also presented.

FIRE 155 Fire Behavior and Combustion 3unit(s)

Hours: 3 Lecture/Discussion

Theory and fundamentals of how and why fires start, spread, and are controlled; an in-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire control techniques. This is one of the first courses a student should take in the sequence of fire technology classes. It covers the basic physical laws of fire combustion and extinguishing processes. It is part of the series of courses recommended by the Chancellor's Office for students in California Community Colleges.

FIRE 157 Fire Prevention Technology 3unit(s)

Hours: 3 Lecture/Discussion

Provides information regarding the philosophy of fire prevention, organization and operation of a fire prevention bureau, application of fire codes, identification and correction of fire hazards, and the relationship of fire prevention with fire safety education and detection and suppression systems.

FIRE 159 Introduction to Fire Protection Organizations 3unit(s)

Hours: 3 Lecture/Discussion

This course provides an overview to fire protection, career opportunities in fire protection and related fields, philosophy and history of fire protection/service, 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.

FIRE 160 Fire and Emergency Safety 3unit(s)

Hours: 3 Lecture/Discussion

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.

FIRE 163 Fundamentals of Fire Protection Equipment and Systems 3unit(s)

Hours: 3 Lecture/Discussion

This is one of six core classes for students pursuing a degree/certificate in Fire Technology. Topics include the design, installation, and operation of fire detection systems, alarm systems and extinguishing systems.

FIRE 182 Building Construction for Fire Safety 3unit(s)

Hours: 3 Lecture/Discussion

The study of the components of building construction relating to fire safety. Elements of construction and design of building. Development and evolution of building in relationship to past fires.

FIRE 230 SFM Company Officer 2A**2unit(s)**

Hours: 2 Lecture/Discussion

This course provides information on the use of human resources to accomplish assignments, evaluating member performance, supervising personnel, and integrating health and safety plans, policies, and procedures into daily activities as well as the emergency scene. The course is one of the required courses for California State Fire Marshal Company Officer certification. This course will be delivered in a one-week, 40 hour format, which includes lecture, activities, and a final exam.

FIRE 231 SFM Company Officer 2B**1unit(s)**

Hours: 1.2 Lecture/Discussion

This course provides information on general administrative functions and the implementation of department policies and procedures and addresses conveying the fire department's role, image, and mission to the public.

FIRE 232 SFM Company Officer 2C**2unit(s)**

Hours: 2 Lecture/Discussion

Fire Inspections and Investigation for Company Officers. This is the third course in the new California State Fire Training Company Officer Certification.

FIRE 233 SFM Company Officer 2D**2unit(s)**

Hours: 2 Lecture/Discussion

All-Risk Command Operations for Company Officers. This course is one of the six required by the Office of the State Fire Marshal for certification as a fire department Company Officer. This course will be taught in a forty-hour, five-day format, which includes lecture and computerized fire simulation activities.

FIRE 234 SFM Company Officer 2E**2unit(s)**

Hours: 2 Lecture/Discussion

Wildland Incident Operations for Company Officers. This is one of the courses required by the Office of the State Fire Marshal for certification as a fire department Company Officer. This course will be delivered in a one-week, 40 hour format, which includes lecture, activities, and a final exam.

FIRE 235 Fire Instructor I: Instructional Methodology**1.5unit(s)**Hours: 1 Lecture/Discussion Hours:
2 Lab

This course covers fundamental principles and techniques of instruction with an emphasis on applied instruction in the fire service. Topics include course outline and lesson plan development, instructional aids, classroom environment management, legal and ethical issues, and instructor accountability and liability. This California State Fire Training course is intended for active duty firefighters seeking advancement to the company officer level.

FIRE 280 Fire Fighter 2 Academy**5unit(s)**Hours: 4 Lecture/Discussion Hours:
3 Lab

Fire Fighter 2 Academy is the second of two courses in the State Fire Marshal's Fire Fighter series. This course expands on areas which were introduced in the Fire Fighter 1 curriculum. The course concentrates on the subjects of Fire Department Communications, Fireground Operations, Rescue Operations, and Fire Prevention, Preparation, and Maintenance. Students must have access to NFPA approved protective clothing for structural fire fighters.

Prerequisites: FIRE 270 or equivalent college course with a minimum grade of C.

FIRE 285 Combined Firefighter 1 and 2 Academy**18unit(s)**Hours: 15 Lecture/Discussion Hours:
9 Lab

This class includes manipulative and technical training in basic concepts in fire service organization and theories of fire control including: fire department organization, identification, use and maintenance of fire equipment, hazardous materials, structural, flammable liquid and LPG, and wildland fire control, auto extrication, fire prevention, and firefighter safety. This course meets current National Fire Protection Association and California State Fire Training for educational and testing requirements for Firefighter 1 and Firefighter 2 certification.

Prerequisites: FIRE 159 and EMT 251 or equivalent college course with a minimum grade of C.