

# Fire Technology

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## Fire Technology

### Program Description

This program was established under direction of Solano County fire protection agencies and offers both an intensive training course culminating in a Certificate of Achievement and a well-rounded educational program leading to the Associate in Science Degree. Instructors in this program are experienced members of the fire service field. In addition, a Fire Technology Academy for recently recruited fire service personnel and pre-service students is conducted periodically. The curriculum consists of courses selected from the regular fire technology course offerings.

### Certificate of Achievement and Associate in Science Degree

A Certificate of Achievement can be obtained upon completion of the 30-45-unit major. The Associate in Science Degree can be obtained upon completion of the 30-42-unit major, SCC General Education - Option A, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

### Program Outcomes

Students who complete the Fire Technology Certificate of Achievement/ Associate Degree will be able to:

1. Demonstrate the ability to analyze, appraise and evaluate fire and emergency incidents and identify components of emergency management and fire fighter safety.
2. Identify and comprehend laws, regulations, codes and standards that influence fire department operations, and identify regulatory and advisory organizations that create and mandate them, especially in the areas of fire prevention, building codes and ordinances, and firefighter health and safety.
3. Analyze the causes of fire; determine extinguishing agents and methods; differentiate the stages of the fire and fire development; and compare methods of heat transfer.
4. Identify and describe common types of building construction and conditions associated with structural collapse and fire fighter safety.

### REQUIRED COURSES ..... Units

FIRE 050 Principles of Emergency Services .....	3
FIRE 051 Fire Behavior & Combustion .....	3
FIRE 053 Fire Prevention Application.....	3
FIRE 054 Fire Protection Systems .....	3
FIRE 056 Building Construction as it Relates to the Fire Service .....	3
FIRE 101 Principles of Fire and Emergency Services Safety and Survival.....	3
12-27 units from Recommended Electives .....	12
<b>Required Major Total Units .....</b>	<b>30-45</b>

### Recommended Electives: (select 12-27 units) ..... Units

FIRE 140 Fire Technology Academy.....	24
EMT 112 Emergency Medical Technician (Basic) .....	7
EMT 128 Emergency Medical Responder.....	3
OCED 090 Occupational Work Experience .....	1-8

### Solano General Education..... 21

### Electives (as needed to reach 60 units)..... 0-9

### Total Degree Units Solano GE..... 60-63

This is a Gainful Employment Program. For additional information, please visit  
[http://www.solano.edu/gainful\\_employment/](http://www.solano.edu/gainful_employment/) and select "Fire Technology."

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### FIRE 050 Principles of Emergency Services 3.0 Units

*Transferable to CSU*

*Hours: 48-54 lecture*

An overview of fire protection; career opportunities in the fire service and related fields; history of fire service and fire protection; fire organization and management; function of public and private protection services; fire departments as part of local government; fire prevention and investigation; building construction; specific fire protection functions; fire and emergency service apparatus and facilities; and introduction to fire protection systems. This is a Fire Technology core course and must be completed with a minimum grade of C in order to receive an Associate Degree or Certificate of Achievement in Fire Technology.

### FIRE 051 Fire Behavior & Combustion 3.0 Units

*Transferable to CSU*

*Hours: 48-54 lecture*

Provides the student with fundamental information and knowledge of the physical and chemical characteristics of matter, fire, hazardous materials, weapons of mass destruction identification and basic extinguishment theory. This is a Fire Technology core course and must be completed with a minimum grade of C in order to receive an Associate Degree or Certificate of Achievement in Fire Technology. Field Trip may be required.

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## **FIRE 053 Fire Prevention Applications**

**3.0 Units**

*Transferable to CSU*

*Hours: 48-54 lecture*

Fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau. It will also discuss the use of fire codes, identification and correction of fire hazards, and the relationship of fire prevention to fire safety education and detection and suppression systems. This is a Fire Technology core course and must be completed with a minimum grade of C in order to receive an Associate Degree or Certificate of Achievement in Fire Technology.

## **FIRE 054 Fire Protection Systems**

**3.0 Units**

*Transferable to CSU*

*Hours: 48-54 lecture*

Provides information relating to the features of design and operation of fire detection and alarm systems and heat and smoke control systems. It will discuss special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. This is a Fire Technology core course and must be completed with a minimum grade of C in order to receive an Associate Degree or Certificate of Achievement in Fire Technology.

## **FIRE 056**

**3.0 Units**

### **Building Construction as it Relates to the Fire Service**

*Transferable to CSU*

*Hours: 48-54 lecture*

Intended to provide basic information about how buildings are designed and constructed. Through a basic understanding of building construction, the student will acquire an understanding of how buildings will behave under fire conditions. This course will aid in decision making related to fire prevention and fire control with the goal of successful fire ground operations. This course must be completed with a minimum grade of C in order to receive an Associate Degree or Certificate of Achievement in Fire Technology.

## **FIRE 101**

**3.0 Units**

### **Principles of Fire and Emergency Services Safety and Survival**

*Course Advisory: ENGL 001*

*Hours: 48-54 lecture*

Introduction to basic principles and history related to the firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

## **FIRE 103 Introduction to the Fire Services**

**1.0 Unit**

*Hours: 48-54 lab*

An activity course for students who are considering a career as a firefighter or first responder. This course includes instruction on various positions and opportunities that are available in the fire service. Students will become familiar with basic facilities, equipment, tools and tasks that are performed by firefighters.

## **FIRE 104**

**1.0 Unit**

### **Introduction to Emergency Medical Services (EMS)**

*Hours: 48-54 lab*

An activity course for students who are considering a career as a firefighter or first responder. The course will include skills in basic first aid, Cardiopulmonary Resuscitation (CPR), bleeding control, and splinting fractures.

## **FIRE 105**

**1.0 Unit**

### **Introduction to Earthquake and Disaster Preparedness**

*Hours: 48-54 lab*

This course will provide information about how students should prepare for, and respond appropriately to earthquakes and other disasters.

## **FIRE 140 Fire Technology Academy**

**24.0 Units**

*Prerequisite: A minimum grade of C in FIRE 050, FIRE 101, EMT 128 and a passing grade on the CPAT or PACK test as evidenced by a certificate of completion*

*Hours: 224-252 lecture, 480-540 lab*

A course containing the contents of State Fire Marshal FF1 (2019) curriculum, I-200, IS-700, IS-800, Fire Control I, Fire Control 3A or 3B, Confined Space Awareness, Rescue Systems I, Low Angle Rope Rescue Operational, Hazardous Materials for the First Responder, Auto Extrication, FF1 certification psychomotor and cognitive testing, State Fire Marshal Certified Wildland courses of S-190, S-130, and CALFIRE 56 Hour Basic Course. Successful students who maintained at least an 80% score on each unit and subject covered in this course may become eligible for certification by the State Fire Marshal as a Firefighter I. Additional fees are associated with this course. Fees may include and are not limited to purchase of uniforms, physical fitness attire, State Fire Marshal certificates, and other related costs.