

PUBLIC SAFETY

Human Arts and Social Sciences Division

Isabel O'Connor, Division Dean

Division Office, Room 420

Harry Bidleman, Director, (831) 479-5042

Aptos Counselor: (831) 479-6274 for appointment

Watsonville Counselor: (831) 786-4734

Call (831) 479-6468 for more information

<http://www.cabrillo.edu/programs>

Fire Technology

Program Description:

Today, fire service personnel are faced with a diverse and complex environment. Firefighters must be well trained to deal effectively with the fire protection problems, emergency medical care response, and hazardous materials emergencies.

The Fire Technology Program at Cabrillo emphasizes basic educational skills in mathematics, chemistry, and communications, as well as fire protection curriculum designed to prepare students for careers in the fire protection field. Careers in fire protection include public fire service, fire protection engineering, and education.

Positions are available in state and federal agencies and private industry. Thousands of openings for both men and women occur each year in fire service and related fields; competition is keen, however. Most fire departments require degrees or certificates of achievement as a prerequisite for promotion.

High School preparation: Completion of algebra, chemistry, and physics is highly recommended.

A.A. Degree: Fire Technology

A.A. General Education 30 Units

Core Courses (18 units)

FT 1	Fire Protection Organization	3
FT 2	Fire Prevention Technology	3
FT 3	Fire Protection Equipment and Systems	3
FT 4	Building Construction for Fire Protection.	3
FT 5	Fire Behavior and Combustion.	3
FT 6ES	Principles of Emergency Services Safety and Survival	3

Approved Electives (6 units)

FT 7	Introduction to Hazardous Materials	3
FT 8	Wildlands Fire Control	3
FT 9	Fire Investigation	3
FT 150	Career Planning for Public Safety	3
or		
CJ 150	Career Planning for Public Safety	3
FT 155D	Fire Technology Skills and Knowledge Modules.	4
CJ 7	Criminal Justice Written Communications	3
COMM 1/1H	Public Speaking	3
COMM 2	Group Discussion.	3
COMM 6	Listening	1
COMM 7	Interpersonal Communication	3
COMM 12	Intercultural Communication	3
PHILO 10/10H	Ethics	3
PHILO 49	Introduction to Critical Thinking.	3
PS 1/1H	Introduction to Government.	3

PSYCH 1	General Psychology	3
PSYCH 6	Introduction to Social Psychology	3
SOC 1/1H	Introduction to Sociology: Understanding Society	3
SOC 2/2H	Contemporary Social Problems	3
SOC 3	Sociology of Race and Ethnicity.	3
SOC 8	Sociology of Latinos and Latinas.	3

Electives:
(Any Course numbered 1-199). 6

Total Units 60

A.S. Degree: Fire Technology

A.S. General Education 21 Units

Core Courses (18 units)

FT 1	Fire Protection Organization	3
FT 2	Fire Prevention Technology	3
FT 3	Fire Protection Equipment and Systems	3
FT 4	Building Construction for Fire Protection.	3
FT 5	Fire Behavior and Combustion.	3
FT 6ES	Principles of Emergency Services Safety and Survival	3

Approved Electives (12 units)

FT 7	Introduction to Hazardous Materials	3
FT 8	Wildlands Fire Control	3
FT 9	Fire Investigation	3
FT 150	Career Planning for Public Safety	3
or		
CJ 150	Career Planning for Public Safety	3
FT 155D	Fire Technology Skills and Knowledge Modules.	4
FT 175	Hazardous Materials	0.5
FT 176	Confined Spaces I	0.25
FT 183	Emergency Medical Technician-B.	7
FT 183L	Emergency Medical Technician Lab	1-3
FT 188	Advanced EMS: Preparing for Paramedic Training	3

CJ 7	Criminal Justice Written Communications	3
COMM 1/1H	Public Speaking	3
COMM 2	Group Discussion.	3
COMM 6	Listening	1
COMM 7	Interpersonal Communication	3
COMM 12	Intercultural Communication	3
PHILO 10/10H	Ethics	3
PHILO 49	Introduction to Critical Thinking.	3
PS 1/1H	Introduction to Government.	3
PSYCH 1	General Psychology	3
PSYCH 6	Introduction to Social Psychology	3
SOC 1/1H	Introduction to Sociology: Understanding Society	3
SOC 2/2H	Contemporary Social Problems	3
SOC 3	Sociology of Race and Ethnicity.	3
SOC 8	Sociology of Latinos and Latinas.	3

Electives:
(Any Course numbered 1-199). 9

Total Units 60

Fire Service Management Option

A.S. Degree: Fire Service Management

A.S. General Education 21 Units

Core Courses (22.5 units)

FT 160	Fire Management I	2.5
FT 161	Fire Command 1A	2.5
FT 162	Fire Command 1B	2.5
FT 163	Fire Prevention 1A	2.5
FT 164	Fire Prevention 1B	2.5
FT 165	Fire Investigation 1A	2.5
FT 166	Fire Investigation 1B	2.5
FT 167	Fire Instructor 1A	2.5
FT 168	Fire Instructor 1B	2.5

Approved Electives (6 units)

ACCT 1A	Financial Accounting	4
ACCT 158	Introduction to Government and Not-for-Profit Accounting	3
BUS 67	Human Relations and Resources	3
CABT 156	Business Grammar	3
COMM 2	Group Discussion	3
COMM 4	Persuasion and Argumentation	3
CJ 2	Criminal Law	3
CJ 170A	Law Enforcement Training - PC 832 Laws of Arrest	2.5
FT 155D	Fire Technology Skills and Knowledge Modules	4
HS 12	Stress Management	3
SOC 2/2H	Contemporary Social Problems	3

Electives:

(Any Course numbered 1-199) 0-10.5

Total Units 60

Certificate of Achievement: Fire Service Management

Core Courses

FT 1	Fire Protection Organization	3
FT 2	Fire Prevention Technology	3
FT 3	Fire Protection Equipment and Systems	3
FT 4	Building Construction for Fire Protection	3
FT 5	Fire Behavior and Combustion	3

Other Required Courses

ENGL 100	Elements of Writing	3
or		
ENGL 1A/1AH/1AMC/1AMCH		3
or		
CABT 157	Business and Technical Writing	3

Total Units 18

Fire Technology

Skills Certificate: Emergency Medical Technician

Required Courses

FT 99SL	Fire Technology Service Learning	0.5 - 3
FT 183	Emergency Medical Technician-B	7
FT 183L	Emergency Medical Technician Lab	1 - 3
FT 188	Advanced EMS: Preparing for Paramedic Training	3

Total Units 11.5 - 16

Fire Technology Courses:

FT 1

Fire Protection Organization

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Examines fundamentals of fire department organization, management, and resources, emphasizing the use of those resources to control various emergencies. May be offered in a Distance-Learning Format.

Transfer Credit: Transfers to CSU.

FT 2

Fire Prevention Technology

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Explores the organization and function of fire prevention, including inspections; surveying and mapping procedures; recognition of fire and life hazards; and public education aspects of fire prevention. May be offered in a Distance-Learning Format.

Transfer Credit: Transfers to CSU.

FT 3

Fire Protection Equipment and Systems

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Examines portable fire extinguishing equipment; fire detection and alarm systems, sprinkler systems; and protection systems for special hazards.

Transfer Credit: Transfers to CSU.

FT 4**Building Construction for Fire Protection**

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Examines the fundamentals of building construction as they relate to fire protection including occupancy, building equipment, facilities, fire resistive materials, and high-rise considerations.

Transfer Credit: Transfers to CSU.

FT 5**Fire Behavior and Combustion**

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Examines theory and fundamentals of how and why fires start, spread, and are controlled including an in-depth study of fire chemistry, physics, characteristics of materials, extinguishing agents, and control techniques.

Transfer Credit: Transfers to CSU.

FT 6ES**Principles of Emergency Services Safety and Survival**

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100; Eligibility for MATH 154.

Introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change throughout the emergency services. May be offered in a Distance-Learning Format.

Transfer Credit: Transfers to CSU.

FT 7**Introduction to Hazardous Materials**

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Presents emergency handling of toxic and radioactive materials, fuels, oxidizers, explosives, as well as flammability and hazard control for storage and transit.

Transfer Credit: Transfers to CSU.

FT 8**Wildlands Fire Control**

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Provides the firefighter or fire protection technology major with a fundamental knowledge of the factors affecting wildland fire prevention, fire behavior, and control techniques.

Transfer Credit: Transfers to CSU.

FT 9**Fire Investigation**

3 units; 3 hours Lecture

Recommended Preparation: FT 1; Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 3 times.

Explores causes and types of fire, related laws, recognition and preservation of evidence, and introduces witness and suspect interviews as well as arrest, detention, and court procedures.

Transfer Credit: Transfers to CSU.

FT 140**Emergency Responder, Advanced First Aid for Professionals**

1 unit; 1 hour Lecture

Recommended Preparation: Cardiopulmonary Resuscitation (CPR). Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Meets the educational requirements for certification of advanced first aid as specified in the training standards of California Code of Regulations, Title 22, Division 9, Chapter 1.5. Prepares individuals to render first aid with emphasis made on field application, practices and techniques vital to render immediate care for injury or sudden illness. Does not include CPR. Recommended for lifeguards, peace officers and camp staff personnel.

FT 141**Certified First Responder for Professionals**

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Provides Emergency Responder and CPR for the Professional Rescuer certification through American Safety and Health Institute and fulfills California Code of Regulations, Title 22 requirements. Provides the training and skills in emergency care needed for peace officers, firefighters, emergency medical technicians, camp medical staff and others. Meets the CPR prerequisite and recommended preparation for admission to the EMT program (FT 183).

FT 150**Career Planning for Public Safety**

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Prepares public safety candidates for the testing and hiring process for entry-level public safety positions. CJ 150 and FT 150 are cross listed courses. Students may enroll in either course for credit, but not both.

FT 151**Fire Apparatus Driver 1A**

2.5 units; 2.5 hours Lecture

Prerequisite: FT 1 or employment as a paid or volunteer firefighter.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 3 times.

Introduces requirements for California State Fire Service Training and Education System Certified Fire Apparatus Driver Operator including pump testing, emergency driving, and apparatus maintenance.

FT 152

Driver Operator 1B

2.5 units; 2.5 hours Lecture

Prerequisite: FT 151.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Examines water systems, hydraulic calculations, pumping, operations, and fire stream practices for California State Fire Service Training and Education System Certified Fire Apparatus Driver Operator.

FT 153

Essentials of Firefighter Safety

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Examines the National Fire Protection Agency (NFPA) Standard 1500 including firefighter safety practices and new types of protective clothing and equipment.

FT 155D

Fire Technology Skills and Knowledge Modules

0.05 - 15 units; 0.15 hour Laboratory

Prerequisite: Successful completion of or current enrollment in an agency approved Fire Academy.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be repeated.

Teaches new or updates existing skills and knowledge of fire technology. Modules may be combined for variable units. Pass/no pass grading only. Open entry/open exit.

FT 160

Fire Management I

2.5 units; 2.5 hours Lecture

Prerequisite: FT 162.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California State Academy requirements for Fire Management I by emphasizing the company officer's role in supervising, planning, and reviewing fire department organizations.

FT 161

Fire Command 1A

2.5 units; 2.5 hours Lecture

Prerequisite: FT 1 and/or FT 3 and/or FT 4 and/or FT 5 and/or FT 181 or completion of Firefighter 1 or equivalent.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California Fire Service Training and Education Systems requirements for Fire Command 1A by emphasizing company officers fire structure attack methods.

FT 162

Fire Command 1B

2.5 units; 2.5 hours Lecture

Prerequisite: FT 161.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California State Fire Marshall requirements for Fire Command 1B by examining emergency scene management; fire behavior tactics and strategies; initial fireground resources; and fireground simulation scenarios.

FT 163

Fire Prevention 1A

2.5 units; 2.5 hours Lecture

Prerequisite: FT 2 and FT 3 or completion of Firefighter 1 or equivalent.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets the requirements of a California State Officer course by providing a broad, technical overview of fire prevention activities required for company officers to discharge their duties regarding fire prevention.

FT 164

Fire Prevention 1B

2.5 units; 2.5 hours Lecture

Prerequisite: FT 163.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California State Fire Marshall requirements by examining regulations pertaining to fire prevention practices including building construction and occupancy; evacuation procedures; inspection reports; and processing plans.

FT 165

Fire Investigation 1A

2.5 units; 2.5 hours Lecture

Prerequisite: FT 161 or completion of Firefighter 1 (Basic Fire Academy) or equivalent.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California State Fire Marshall requirements for Fire Investigation 1A, including determining fire cause; recognizing and preserving evidence; types of fires; related laws; and arson.

FT 166

Fire Investigation 1B

2.5 units; 2.5 hours Lecture

Prerequisite: FT 165.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California State Fire Marshall requirements for Fire Investigation 1B Certification by exploring advanced fire investigation topics including juvenile fire setting, report writing, evidence collection, and preservation procedures.

FT 167

Fire Instructor 1A

2.5 units; 2.5 hours Lecture

Prerequisite: FT 161.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California State Fire Marshall Instructor Training 1A requirements including methods, procedures, and technology to select, develop, and organize in-service training programs.

FT 168

Fire Instructor 1B

2.5 units; 2.5 hours Lecture

Prerequisite: FT 167.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets California State Fire Marshall course requirements for Instructor Training 1B by presenting methods, procedures, and techniques to help fire service personnel select, develop, and organize materials for in-service training programs.

FT 169**Wildland Fire Management**

2.5 units; 2.5 hours Lecture

Prerequisite: FT 189 or Firefighter 1 or equivalent.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Meets NWCG certified course requirements for current and prospective officers emphasizing command and tactics of initial wildland or urban interface fires, including safety and fire behavior, resources, and extended operations.

FT 175**Hazardous Materials - First Responder Operations**

0.5 unit; 0.5 hour Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Prepares student to carry out the initial response to a hazardous materials emergency.

FT 176**Confined Space I**

0.25 unit; 0.25 hour Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Provides an overview of OSHA regulations as well as ANSI standards relative to confined space rescue.

FT 178**CPR for Health Providers**

0.5 unit; 0.5 hour Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Teaches CPR skills for victims of all ages to health care providers, focusing on ventilation with a barrier device, a bag-mask device, use of an automated external defibrillator (AED).

FT 180**Basic Incident Command System 200**

1 unit; 1 hour Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Introduces organization, basic terminology, and common responsibility information about Incident Command System (ICS) for personnel working in a support role at an incident or event.

FT 181**Intermediate Incident Command System 300**

1.5 units; 1.5 hours Lecture

Prerequisite: FT 180 (State Fire Marshall Course # ISC 200.)

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Reviews and further explores information designed to meet the needs of command officers managing complex emergency incidents.

FT 182**Advanced Incident Command System 400**

1.5 units; 1.5 hours Lecture

Prerequisite: FT 181 (State Fire Marshall Course # ICS 200.)

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Introduces large-scale organizational development; rules and relationships of primary staff; and the planning, operational, and fiscal considerations related to complex incident and event management. Intended for chief officers and designed to meet the needs of command officers managing complex emergency incidents.

FT 183**Emergency Medical Technician-B**

7 units; 7 hours Lecture

Prerequisite: FT 178 State Requirement: Current CPR card for Health Care Provider (infant/child/adult).

Corequisite: FT 183L.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Meets the State of California requirements for an Emergency Medical Technician-B (EMT-B) to render pre-hospital basic life support services, with emphasis on practices and techniques, vital to the interaction of EMT-B personnel with all levels of emergency medical personnel. State Requirement: Current CPR card for Health Care Provider (infant/child/adult).

FT 183L**Emergency Medical Technician Lab**

1 - 3 units; 3 hours Laboratory

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Prepares for application of emergency medical technician skills (and skills portion of the Santa Cruz County EMT certifying exam) through practice on issues from vital signs assessment to emergency childbirth.

FT 184**Emergency Medical Technician-B Refresher**

1.5 units; 1.5 hours Lecture

Prerequisite: Possession of a valid EMT-B certificate or a certificate that has been expired for less than one year.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be repeated.

Meets California State requirements for renewal of Emergency Medical Technician-B certification for persons who hold a valid EMT-B certificate or one that has been expired for less than one year.

FT 184S**EMT-B Refresher Skills Proficiency Evaluation**

0.5 - 3 units; 0.5 hour Lecture

Prerequisite: Emergency Medical Technician-Basic certification. FT 184 or.

Corequisite: FT 184.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Meets the State of California requirements for skills verification for renewal of Emergency Medical Technician-Basic certification. Consists of scenario and skills practice and verification.

FT 185

Firefighter-I Academy

10 units; 20 hours Lecture

Prerequisite: 1. Ability to meet the Academy medical standards as certified by a medical doctor. 2. Ability to pass a pre-academy physical agility examination. 3. Submission of a completed application and payment of all fees.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be repeated.

Meets standards for certification by the State Board of Fire Services and the California State Fire Marshall for Firefighter 1 basic course, focusing on competent and comprehensive training in the field of Fire Technology as it relates to firefighters.

FT 186

Preparing for your Fire Service Career

0.5 unit; 0.5 hour Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Focuses on preparation of application and techniques for success in written, physical agility, and oral interview portions of the recruitment process.

FT 188

Advanced EMS: Preparing for Paramedic Training

3 units; 3 hours Lecture

Prerequisite: FT 183 or equivalent; EMT and CPR certification required.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Prepares Emergency Medical Technicians for testing into paramedic school introducing aspects of advanced life support patient care. Upon course completion students will receive 24 C.E.U.s toward EMT recertification.

FT 189

CDF Wildland Firefighter 1 Academy

2.25 units; 6.75 hours Laboratory

Prerequisite: 1. Meet the Academy medical standards as certified by a medical doctor. 2. Pass a pre-academy physical agility examination. 3. Submit completed public safety program application.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Teaches basic wildland firefighting skills, laws, and regulations including safe use of hoses, tools, equipment, and ladders.

FT 190A-Z

Special Topics in Fire Technology

0.5 - 12 units; 0.5 hour Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Repeatability: May be taken a total of 4 times.

Introduces selected topics in Fire Technology not covered by regular *Catalog* offerings. Each special topic course will be announced, described, and given its own title and letter designation in the *Schedule of Classes*. The structure and format of the classes will vary depending on the subject matter.