Course Acronym:	FTEC
Course Number:	15
Descriptive Title:	Fire Academy
Division:	Health Sciences and Athletics
Department:	Fire and Emergency Technology
Course Disciplines:	Fire Technology
Catalog Description:	This course is designed for the student who wishes to prepare for entry-level positions as a firefighter and work toward becoming certified as a Fire Fighter 1, as specified by the California State Fire Marshal's office. Students participate in a 495-hour course of instruction emphasizing basic firefighting skills, such as methods of extinguishing fires, principles of ventilation, techniques of physical rescue, building construction, fire apparatus, fire equipment maintenance and the knowledge of fire behavior. Note: Students must apply through the Public Safety Department Office. Note: Students pay non-refundable fees for state certificates and state testing
Prerequisite:	1. Fire and Emergency Technology 1 with a minimum grade of C or equivalent AND 2. Fire and Emergency Technology 3 with a minimum grade of C or equivalent AND 3. Fire and Emergency Technology 5 with a minimum grade of C or equivalent AND 4. Fire and Emergency Technology 6 with a minimum grade of C in prerequisite or equivalent AND 5. Possession of a National Registry Card or possession of a valid Emergency Medical Technician (EMT) license as required by the California State Fire Marshal's Office AND 6. Pass a Fire Fighter Physical Agility Test (FPAT) or Candidate Physical Agility Test (CPAT) within the last 6 months as required by the California State Fire Marshal's Office AND

	7. Pass a physical examination according to the National Fire Protection Association (NFPA) Standard #1582 AND 8. Pass the El Camino College Fire Academy BIDDLE Test; this test is given to applicants approximately two weeks after application deadline closes AND 9. Possess a valid California Driver's License
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	9
Hours Laboratory (per week):	18.5
Outside Study Hours:	18
Total Course Hours:	495
Course Units:	15
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	No
Effective Date:	
Transfer UC:	No
Effective Date:	
General Education: ECC	
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	**SLO #1 Fire Department Organization and Culture** Students will define fire department organization and culture, and the expectations of entry-level fire department personnel.

	SLO #2 Characteristics of Fire Behavior Students will recognize the characteristics of fire behavior and relate how the external influences of weather and chemicals affect it. **SLO #3 Fire Behavior and Building Construction** Students will be able to relate the building construction type to its anticipated fire behavior in emergency situations.
Course Objectives:	1. Identify the organizational structure within a typical fire service department. 2. Explain firefighter safety and demonstrate the use of protective equipment. 3. Compare and contrast the functions and uses of an engine and truck company - nozzles, fittings, hose, ladders, power equipment and job duties during emergency incidents. 4. Tie rescue knots and demonstrate their uses. 5. Identify the components, use and maintenance of fire hose and perform hose evolutions. 6. Identify basic building construction in relationship to firefighter safety and fire behavior. 7. Identify types of hydrants and water systems and their capabilities. 8. Raise and lower fire ladders. 9. Utilize a self-contained breathing apparatus. 10. Perform search and rescue operations. 11. Combat structure fires. 12. Combat vehicle fires. 13. Combat flammable gas and liquid fires. 14. Use hand held fire extinguishers. 15. Identify the use and application of various types of fire apparatus. 16. Identify the conditions, applications, and maintenance of salvage covers. 17. Perform building ventilation of various types and methods. 18. Analyze and predict fire behavior. 19. Extricate victims from automobiles. 20. Explain the roles and responsibilities of firefighters in the incident command system. 21. Explain the firefighter's responsibility in a fire investigation. 22. Identify and perform the duties of a firefighter as the first responder to a hazardous materials incident. 23. Identify standpipes and sprinkler systems and their applications. 24. Explain The Ten Wildland Firefighting Orders. 25. Explain the 18 wildland firefighting situations that "Shout Watchout". 26. Demonstrate the use of wildland firefighting tools. 27. Demonstrate progressive hoselays. 28. Demonstrate mounting and dismounting fire apparatus. 29. Demonstrate the ability to safely cut a scratch line as a member of a crew. 30. Perform self-rescue techniques. 31. Explain the various methods for utility control at emergencies. 32. Demonstrate the safe operation of hand and power tools. 33. Demonstrate the various methods to gain entry into structures and properties. 34. Demonstrate types of cleaning methods for various tools and equipment. 35. Demonstrate emergency decontamination techniques.

Major Topics:	**I. COURSE OVERVIEW (4 hours, lecture)** A. Orientation B. Fire Fighter 1 certification process **II. FIRE FIGHTER SAFETY (12 hours, lecture)** A. Health/safety B. Protective ensemble C. Self-Contained Breathing Apparatus (SCBA) D. Operating on-scene E. Responding on apparatus **III. FIRE FIGHTER SAFETY (29 hours, lab)** A. Physical conditioning B. Protective ensemble C. SCBA D. Operating on-scene E. Responding on apparatus **IV. COMMUNICATIONS (2 hours, lecture)** A. Operating phones B. Initiating a response C. Operating fire department phones **V. COMMUNICATIONS (2 hours, lab)** A. Operating phones B. Initiating a response C. Operating fire department phones **VI. FIRE TOOLS/EQUIPMENT/FACILITIES (8 hours, lecture)** A. Ropes B. Knots C. Hand and power tools

D. Tool and facility maintenance

E. Portable lighting

VII. FIRE TOOLS/EQUIPMENT/FACILITIES (36 hours, lab)

A. Ropes

B. Knots

C. Hand and power tools

D. Tool and facility maintenance

E. Portable lighting

VIII. STRUCTURAL FIRE SUPPRESSION (57 hours, lecture)

A. Building construction

B. Fire behavior

C. Fire extinguishers

D. Water supply

E. Fire hoses

F. Utility control

G. Ground ladders

H. Forcible entry

I. Search and rescue

J. Horizontal ventilation

K. Structural firefighting operations

L. Vertical ventilation

M. Property conservation

N. Overhaul

O. Fire Control

P. Flash chamber

Q. Hose rolls

	R. Hose loading **IX. STRUCTURAL FIRE SUPPRESSION (157 hours, lab)** 29 Hours A. Building construction B. Fire behavior C. Fire extinguishers 24 Hours A. Water supply B. Fire hoses C. Utility control 32 Hours A. Ground ladders B. Forcible entry C. Search and rescue D. Horizontal ventilation 24 Hours A. Structural firefighting operations B. Vertical ventilation C. Property conservation D. Overhaul 24 Hours A. Fire control B. Flash chamber 24 Hours A. Hose rolls B. Hose loading **X. FIRE FIGHTER SURVIVAL (4 hours, lecture)**

A. Structural fire fighter survival

B. Exiting a hazardous area

C. Initiating a "May Day"

D. Performing self-rescue

E. Opening a wall

F. Escaping from entanglements

G. Breathing techniques

XI. FIRE FIGHTER SURVIVAL (12 hours, lab)

A. Structural fire fighter survival

B. Exiting a hazardous area

C. Initiating a "May Day"

D. Performing a self-rescue

E. Opening a wall

F. Escaping from entanglements

XII. SUPPRESSION OF FIRE OUTSIDE (5 hours, lecture)

A. Exterior fires

B. Passenger vehicle fires

XIII. SUPPRESSION OF FIRE OUTSIDE (12 hours, lab)

A. Exterior fires

B. Passenger vehicle fires

XIV. WILDLAND FIRE SUPPRESSION (32 hours, lecture)

A. Wildland tools/equipment

B. Wildland response

C. Protective equipment

D. Wildland fire behavior

E. Wildland urban interface

F. Conducting patrols

G. Human factors

XV. WILDLAND FIRE SUPPRESSION (24 hours, lab)

A. Wildland tools/equipment

B Wildland response

C. Protective equipment

D. Wildland fire behavior

E. Wildland urban interface

F. Conducting patrols

G. Human factors

XVI. HAZARDOUS MATERIALS/WEAPONS OF MASS DESTRUCTION (WMD) 12 hours, lecture)

A. Recognizing hazardous materials/WMD

B. Identifying/analyzing hazardous materials/WMD incidents

C. Emergency decontamination

D. Mitigating a hazardous materials/WMD incident

XVII. HAZARDOUS MATERIALS/WMD (12 hours, lab)

A. Recognizing hazardous materials/WMD

B. Identifying/analyzing hazardous materials/WMD incidents

C. Emergency decontamination

D. Mitigating a hazardous materials/WMD incident

XVIII. FIRE SERVICE TRAINING AND EDUCATION PROGRAM (FSTEP) AUTO EXTRICATION (8 hours, lecture)

A. Supplemental restraint systems

B. Safety hazards

C. Vehicle construction

D. Cutting operations

E. Stabilization

	XIX. FSTEP AUTO EXTRICATION (8 hours, lab) A. Supplemental restraint systems B. Safety hazards C. Vehicle construction D. Cutting operations E. Stabilization **XX. FSTEP FLAMMABLE LIQUID AND GAS FIRES (3 hours, lecture)** A. Characteristics of flammable gases and liquids B. Hazards of flammable gases and liquids C. Tactics to utilize on flammable gases and liquids **XXI. FSTEP FLAMMABLE LIQUID AND GAS FIRES (5 hours, lab)** A. Characteristics of flammable gases and liquids B. Hazards of flammable gases and liquids C. Tactics to utilize on flammable gases and liquids **XXII. FSTEP CONFINED SPACE AWARENESS (7 hours, lecture)** A. Occupational Safety and Health Association (OSHA) regulations B. Pre-entry procedures C. Atmospheric monitoring D. Mitigating the incident **XXIII. CERTIFICATION TESTING - THEORY (8 hours, lecture)** A. Intensive review B. Individual and group discussion **XXIV. CERTIFICATION TESTING - SKILLS (36 hours, lab)** A. Intensive review B. Individual and group discussion
Total Lecture Hours:	162

Total Laboratory Hours:	333
Total Hours:	495
Primary Method of Evaluation:	
Typical Assignment Using Primary Method of Evaluation:	**Primary Method of Evation (above): Other: Various skills demonstrations and evolutions** Dressed in full personal protective attire, demonstrate to the instructor with 100% accuracy, the ability to don and operate a Self-Contained Breathing Apparatus (SCBA) within a one minute time period.
Critical Thinking Assignment 1:	Prepare a one-page written report on the types of fire extinguishing agents available for fire suppression that compares and contrasts the extinguishing agents and their relative effectiveness in the suppression of fire. Submit report to the instructor.
Critical Thinking Assignment 2:	Given a structure fire scenario, students in groups of three will demonstrate to the instructor the following: fire attack methods and engine and truck company operations. Choose the attack method which most likely would effectively mitigate the incident.
Other Evaluation Methods:	Class Performance, Homework Problems, Other (specify), Other Exams, Performance Exams, Quizzes
Instructional Methods:	Demonstration, Discussion, Field trips, Group Activities, Guest Speakers, Lab, Lecture, Multimedia presentations, Other (specify), Role play/simulation
If other:	
Work Outside of Class:	Answer questions, Problem solving activity, Required reading, Skill practice, Study, Written work (such as essay/composition/report/analysis/research)
If Other:	
Up-To-Date Representative Textbooks:	Frederick Stowell, ESSENTIALS OF FIREFIGHTING, 7th edition, Brady/International Fire Service Training Association (IFSTA), 2018. El Camino College, EL CAMINO FIRE ACADEMY NOTEBOOK, El Camino College, 2022. National Wildfire Coordinating Group (NFES), FIREFIGHTER TRAINING S-130, National Wildfire Coordinating Group (NFES), 2021. Qualifier Text: Discipline Standard National Wildfire Coordinating Group (NFES), INTRODUCTION TO WILDLAND FIRE BEHAVIOR S-190, National Wildfire Coordinating Group (NFES), 2021. Qualifier Text: Discipline Standard
Alternative Textbooks:	
Required Supplementary Readings:	
Other Required Materials:	Various Handouts

Requisite:	Prerequisite
Category:	sequential
Requisite course(s): List both prerequisites and corequisites in this box.	1. Fire and Emergency Technology 1 with a minimum grade of C or equivalent AND 2. Fire and Emergency Technology 3 with a minimum grade of C or equivalent AND 3. Fire and Emergency Technology 5 with a minimum grade of C or equivalent AND 4. Fire and Emergency Technology 6 with a minimum grade of C in prerequisite or equivalent
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	**Understand the need for safety rules and regulations.** FTEC 1 - Describe the basic elements of firefighter safety and survival. **Understand strategic and tactical priorities.** FTEC 1 - Define firefighting strategy and tactics. **Understand components of fire as a chemical reaction; the major phases of fire and the main factors that influence fire spread and fire behavior.** FTEC 1 - Compare and contrast the basic components of fire as a chemical reaction, the major phases of fire, and the main factors that influence fire spread and fire behavior. **Describe various types of ire apparatus and their specialized applications in mitigating incidents.** FTEC 1 - Discuss the types of common fire department apparatus, equipment, and personal safety equipment used for firefighting. **Proper donning of personal protective gear.** FTEC 3 - Explain the need for enhancements of personal and organizational accountability for health and safety.

Understand the need for safety training and safe use of fire equipment.

FTEC 3 - Explain the concept of empowering all emergency services personnel to stop unsafe acts.

FTEC 3 - Illustrate how technological advancements can produce higher levels of emergency services safety and survival.

FTEC 3 - Discuss the importance of fire sprinklers and code enforcement.

FTEC 3 - Explain the importance of safety in the design of apparatus and equipment.

Knowledge of how fires start and spread.

FTEC 5 - Analyze the basic laws differentiating matter and energy.

FTEC 5 - Diagram basic terminology, definitions, and phenomena of fire related chemistry.

Knowledge of controlling fires.

FTEC 5 - Categorize the various methods and techniques necessary to effect fire extinguishment.

FTEC 5 - Compare and contrast the four basic methods of fire extinguishment.

FTEC 5 - Compare and contrast desirable and undesirable characteristics of water as used in fire extinguishment.

Understand the chemistry and physics behind fire behavior.

FTEC 5 - Analyze the basic laws differentiating matter and energy.

FTEC 5 - Diagram basic terminology, definitions, and phenomena of fire related chemistry.

Identify the types of building construction.

FTEC 6 - Compare and contrast the structural members on various types of construction.

Identify fire operations.

	FTEC 6 - Differentiate between the loads that are placed on a building and describe each type of load. FTEC 6 - Compare and contrast firefighting practices and procedures developed for different types of building construction.
Requisite Skill:	5. Possession of a National Registry Card or possession of a valid Emergency Medical Technician (EMT) license as required by the California State Fire Marshal's Office AND 6. Pass a Fire Fighter Physical Agility Test (FPAT) or Candidate Physical Agility Test (CPAT) within the last 6 months as required by the California State Fire Marshal's Office AND 7. Pass a physical examination according to the National Fire Protection Association (NFPA) Standard #1582 AND 8. Pass the El Camino College Fire Academy BIDDLE Test; this test is given to applicants approximately two weeks after application deadline closes AND 9. Possess a valid California Driver's License
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding	

course objective under each skill(s). If applicable	
Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Craig Neumann
Date:	09/01/1988
Original Board Approval Date:	03/13/1989
Last Reviewed and/or Revised by:	Jeff Baumunk
Date:	10/11/2018
Last Board Approval Date:	12/19/2022