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INSTRUCTIONAL EQUIPMENT REQUEST

2021-2022



Internal Use
IE #: 2022 - <u>12</u>
Total \$: <u>20,550.00</u>

LPC ADMINISTRATIVE SERVICES - REQUISITION INFORMATION PAGE

Requester Name: _____ **Division Name:** _____

Equipment Name: _____

The Equipment is: A Replacement An Upgrade New Equipment/Technology

SECTION 1: EQUIPMENT DESCRIPTION

Describe the specific equipment requested and how it will be used to replace, upgrade or provide new technology to LPC from what is currently in place:

Equipment Location Building: _____ **Room:** _____

Location Comments:

SECTION 1: EQUIPMENT DESCRIPTION (continued)

If applicable, describe the legal requirement, mandate, or safety concern for purchase of this equipment, making specific reference to the legal requirement or regulation:

SECTION 2: LPC MISSION STATEMENT AND LPC PLANNING PRIORITIES

LPC MISSION STATEMENT:

Las Positas College provides an inclusive, learning-centered, equity-focused environment that offers educational opportunities and support for completion of students' transfer, degree, and career-technical goals while promoting life-long learning.

LPC PLANNING PRIORITIES:

- ❖ Implement the integration of all ACCJC standards throughout campus structure and processes.
- ❖ Establish a knowledge base and an appreciation for equity; create a sense of urgency about moving toward equity; institutionalize equity in decision-making, assessment, and accountability; and build capacity to resolve inequities.
- ❖ Increase student success and completion through change in college practices and processes: coordinating needed academic support, removing barriers, and supporting focused professional development across the campus.

Specify how the equipment supports *LPC's Mission Statement and Planning Priorities*:

SECTION 3: EDUCATIONAL ITEMS – PROGRAM REVIEW

Specify the educational programs this equipment supports:

Will this equipment be a part of your upcoming Program Review or was it included last year? Please explain using the exact words from your Program Review. If not, explain why.

SECTION 4: TEACHING AND LEARNING

In detail describe evidence and data that equipment provides much needed benefit and enhancement to teaching beyond current capabilities.

Describe in detail the impact this equipment will have on learning:

Each academic year, this equipment will impact: ____ # of classes/sections ____ # of students

SECTION 5: OUTCOMES (SLOs)

Using your documented SLOs, specify how the equipment will enable student learning outcomes to be achieved beyond current capability.

SECTION 6: TOTAL COST OF OWNERSHIP (FINANCIAL & SUSTAINABILITY)

What is the potential life span of the requested equipment?

If new storage is needed what are the storage requirements, location requirements, and costs associated with the new equipment: (NOTE: Specific storage costs should be detailed in the “Part A: Initial Start-up Costs” section below.)

If this equipment replaces old equipment but the old equipment will not be retired, are there on-going storage requirements, location requirements, and costs associated with the old equipment? If so, provide details.

What will be required to maintain the equipment, such as regular servicing or upkeep? (Specific on-going costs should be detailed in the “Part B: On-Going Annual Operating Costs” sections below as applicable.)

Explain how this equipment meets or exceeds basic sustainability efforts and/or provides renewable resources to the college:

Part A: Initial Start-up Costs

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Equipment or Materials		
Taxes (9.5%)		
Shipping or Delivery Charge		
Installation Costs *		
Miscellaneous Costs:		
Facilities Modifications		
Operator Training		
Maintenance & Repair Training		
Storage		
Other: _____		
Vendor Discount		
Grand Total:		

Part B: On-Going Annual Operating Costs

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Annual Service or Maintenance		
Estimated Parts Replacement Per Year		
Outside Standardization or Calibration Costs		
Storage Costs		
New Supply Costs		
Maintenance & Repair Labor		
Licensing or Software		
Other: _____		
Annual Operating Costs:		

Indicate the source of funding for on-going annual operating costs:

Part C: Incremental Labor Costs

OPERATOR:

Indicate the key operator: _____

Is the work in their current scope of duties? _____

What is the cost to train key operator? _____
(include \$\$ in the Initial Start-up Costs above)

Number of hours per month will the key operator use the equipment? _____

MAINTENANCE & REPAIRS

Indicate who will performing maintenance and repairs: _____

Is the work in their current scope of duties? _____

Indicate cost to train for maintenance and repairs? _____

Number of hours maintenance is required per month: _____

REMINDER

Instructional Equipment Requests submitted without a quote and requisition will be returned.
Shopping Carts are not considered quotes and will not be expected.

SIGNATURE APPROVALS and ROUTING

REQUESTER:

DATE:

DIVISION DEAN/MANAGER: *Stuart McElerry*

DATE:

Click the Submit Button to Route

Signed Instructional Equipment Requests (IER) Directly to Admin Services

Admin Services will coordinate review of all IER by IT and M&O and collect signatures

College Technical Services, Manager:
Date:

M&O Director:
Date:

VP Academic Services:
Date:

VP Administrative Services:
Date:

Course Outline for FST 12

LPC REGIONAL FIRE ACADEMY - FIREFIGHTER 1 AND FIREFIGHTER 2

Effective: Fall 2021

I. CATALOG DESCRIPTION:

FST 12 — LPC REGIONAL FIRE ACADEMY - FIREFIGHTER 1 AND FIREFIGHTER 2 — 17.00 units

This course provides the skills and knowledge needed for the entry-level firefighter to perform structural suppression activities, wildland fire suppression activities and hazardous materials mitigation and containment activities. This course covers topics in both Firefighter 1 and Firefighter 2 in accordance with the California State Fire Marshall 2019 Curriculum.

*Course Material Fees May Apply

10.00 Units Lecture 7.00 Units Lab

Prerequisite

EMS 30 - Emergency Medical Responder
 with a minimum grade of C

or

A valid State of California EMT or PARAMEDIC license issued by the CA EMSA also meet this prerequisite.

FST 1 - Fire Protection Organization
 with a minimum grade of C

FST 7 - Fire Service Conditioning & Physical Agility Development
 with a minimum grade of C

or

A valid CPAT (Candidate Physical Agility Test) or a BIDDLE (Firefighter Physical Agility) test also meet this prerequisite.

Grading Methods:

Letter Grade

Discipline:

- Fire Technology

	MIN
Lecture Hours:	180.00
Expected Outside of Class Hours:	360.00
Lab Hours:	378.00
Total Hours:	918.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

A. EMS30

1. Explain how the Emergency Medical Services (EMS) system works and how the first responder's role in the EMS system differs from citizen responder's role
2. Identify guidelines to follow to ensure personal safety and the safety of others at an emergency scene
3. Explain what happens in the body if one or more body systems fail to function
4. Identify ways in which diseases are transmitted and describe the universal safety precautions to prevent transmission
5. Explain the four emergency action principles
6. Recognize breathing emergencies, such as choking, and provide proper care for them
7. Recognize life-threatening bleeding and demonstrate how to control it
8. Identify the major risk factors for cardiovascular disease and injury, and describe how to control them
9. Recognize the signs and symptoms of a possible heart attack, and describe how to care for someone who is experiencing a persistent chest pain and/or other signs and symptoms of heart attack
10. Recognize the signs and symptoms of cardiac arrest, and demonstrate how to provide cardiopulmonary resuscitation (CPR) for the infant, child and adult
11. Identify breathing devices and demonstrate how to use them
12. Recognize the signs and symptoms of shock, and describe how to minimize the effects of shock
13. Recognize the signs and symptoms of medical emergencies, including poisoning, heat and cold emergencies, and stroke, and describe both general and specific care for medical emergencies
14. Recognize emergency care needs of special populations
15. Describe the care of the pregnant woman to include child birth and care of the newborn

16. Identify situations that require crisis intervention
 17. Identify the correct process for gaining access and moving patients
 18. Describe the process for managing multiple casualty incidents
 19. Recognize situations that require automated external defibrillation
 20. Recognize the importance of healthy life styles, to include illness and injury prevention
- B. FST1
1. Describe the components and development of the fire and emergency services.
 2. Recognize and illustrate the history of the fire service.
 3. Recognize careers in fire and emergency services.
 4. Illustrate and explain the history and culture of the fire service.
 5. Analyze the basic components of fire as a chemical chain reaction, the major phases of fire, and examine the main factors that influence fire spread and fire behavior.
 6. Differentiate between fire service training and education and explain the value of higher education to the professionalization of the fire service.
 7. List and describe the major organizations that provide emergency response service and illustrate how they relate.
 8. Identify fire protection and emergency-service careers in both public and private sector.
 9. Define the role of national, state and local support organizations in fire service and emergency services.
 10. Discuss and describe the scope, purpose, and organizational structure of fire and emergency services.
 11. Describe the common types of fire and emergency service facilities, equipment and apparatus.
 12. Compare and contrast effective management concepts for various emergency situations.
 13. Identify the primary responsibilities of fire prevention personnel including, code enforcement, public information, public and private protection systems.
 14. Recognize the components of career preparation and goal setting.
 15. Describe the importance of wellness and fitness as it relates to emergency services.
 16. Identify different programs to ensure equitable access and opportunities in fire and emergency services
 17. Describe equitable work environments and what constitutes discrimination and a hostile work environment.
- C. FST7
1. Explain the importance of warm-ups and downs
 2. Discuss the benefits of maintaining a regular exercise program
 3. Explore exercise programs for flexibility, strength, endurance and cardiovascular development
 4. Develop increased aerobic fitness, muscular strength and endurance, and improved agility
 5. Improve recovery time after exercise
 6. Identify appropriate lifestyle modification techniques
 7. Develop elementary wellness practices: healthy nutrition, stress reduction and coping skills, and adequate rest
 8. Discuss the psychological affect of mental fatigue
 9. Perform proper lifting and carrying techniques with "Tools of the Trade"
 10. Identify health risk factors
 11. Demonstrate proper cardio-respiratory control with use of an SCBA while under physical exertion
 12. Demonstrate appropriate techniques for "CPAT" and traditional "Physical Agility" testing requirements

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

- A. Analyze, appraise, and evaluate fire and emergency incidents
- B. Demonstrate and apply the use of tools, equipment, and tactics for the Wildland Firefighter
- C. Demonstrate and apply the use of tools, equipment, and tactics for the Structural Firefighter
- D. Demonstrate the ability of a first responder operational to function in mission-specific tasks

V. CONTENT:

- A. Unit 1: Introduction
 1. Orientation and Administration
 2. Firefighter 1 certification process
 3. Firefighter 1 roles and responsibilities
- B. Unit 2: Fire Fighter Safety
 1. Operating within the Incident Command System
 2. Health and Safety Awareness
 3. Behavioral Health and Cancer Awareness
 4. Structural Personal Protective Ensemble
 5. Self-Contained Breathing Apparatus
 6. Using SCBA During Emergency Operations
 7. Doffing SCBA and PPE for Gross Decontamination
 8. Responding on Apparatus to an Emergency
 9. Establishing and operating in work safe areas
- C. Unit 3: Communications
 1. Receiving a nonemergency telephone call
 2. Initiating a response to an emergency
 3. Transmitting and receiving radio messages
- D. Unit 4: Fire Tools and Equipment
 1. Utilizing ropes and knots
 2. Utilizing hand and power tools
 3. Operating emergency scene lighting
 4. Operating an air monitoring instrument
- E. Unit 5: Structural Fire Suppression
 1. Building Construction
 2. Fire Behavior
 3. Extinguishing Fire with Fire Extinguishers
 4. Water Supply Systems
 5. Cleaning, Inspecting and Returning Fire Hose to Service
 6. Deploy and Connect Fire Hose
 7. Utility Control at Emergencies
 8. Cleaning, Inspecting and Maintaining Fire Service Ladders
 9. Ground Ladder Operations
 10. Forcing Entry into a Structure
 11. Conducting a Search and Rescue Operation in a Structure
 12. Attacking an Interior Structure Fire
 13. Horizontal Ventilation Operations
 14. Vertical Ventilation Operations
 15. Conserving Property
 16. Overhauling a Fire Scene

- F. Unit 6: Fire Fighter Survival
 - 1. Structural Fire Fighter Survival
- G. Suppression of Fires Outside of a Structure
 - 1. Extinguishing Fires in Exterior Class A Materials
 - 2. Attacking a Passenger Vehicle Fire
 - 3. Combatting a Ground Cover Fire
- H. Firefighter 2A Structure Module Unit 1 FF2
 - 1. Introduction and Administration to the FF2 Certification Process
 - 2. Firefighter 2 roles and responsibilities
- I. Fire Department Communications Unit 2 FF2
 - 1. Complete a basic incident report
 - 2. Communicate the need for team assistance
- J. Fire Ground Operations Unit 3 FF2
 - 1. Extinguish an ignitable liquid fire
 - 2. Control a flammable gas liquid fire
 - 3. Coordinate an interior attack line
 - 4. Protecting evidence of cause and origin
- K. Rescue Operations Unit 4 FF2
 - 1. Extricate a victim entrapped in a motor vehicle
 - 2. Assist with special operations teams
- L. Fire and Life Safety Unit 5 FF2
 - 1. Perform a fire safety survey in an occupied structure
 - 2. Present fire safety information to station visitors or small groups
 - 3. Prepare a preincident survey
 - 4. Maintain power tools, lighting, and other equipment
 - 5. Perform an annual test of fire hose
- M. Wildland Firefighter Module: Introduction
 - 1. Orientation and Administration
 - 2. Wildland Firefighter 1 and Firefighter 2 roles and responsibilities
- N. Wildland Firefighter Unit 2: Preparation
 - 1. Wildland Fire Behavior
 - 2. Recognizing dangerous wildland situation. 10 and 18 watch out situations
 - 3. Human factors on the fire line
 - 4. Don and Doff PPE
 - 5. Deploying a fire shelter
 - 6. Cleaning, maintenance, and operation of wildland fire tools and equipment
- O. Wildland Firefighter Unit 3: Wildland Fire Suppression
 - 1. Assembling and preparing for a response
 - 2. Constructing and securing a fire line
 - 3. Reducing the threat of fire to an improved structure
 - 4. Mopping up a fire line
 - 5. Patrolling a fire area
- P. Hazmat Module: Introduction
 - 1. Introduction to Hazmat /FF1 and FF2 certification process
- Q. Hazmat Module Unit 2: Hazardous Materials WMD Awareness
 - 1. Description of Duties
 - 2. Recognizing a hazmat or WMD incident
 - 3. Selecting/Don and Doff PPE at the scene of a Hazardous Material incident
 - 4. Performing emergency decontamination
 - 5. Identify action options
 - 6. Perform assigned tasks
 - 7. Perform product control techniques
 - 8. Identify and report progress at the scene of a Hazmat or WMD incident

VI. LAB CONTENT:

- A. Unit 3: Communications
 - 1. Receiving a nonemergency telephone call
 - 2. Initiating a response to an emergency
 - 3. Transmitting and receiving radio messages
- B. Unit 4: Fire Tools and Equipment
 - 1. Utilizing ropes and knots
 - 2. Utilizing hand and power tools
 - 3. Operating emergency scene lighting
 - 4. Operating an air monitoring instrument
- C. Unit 5: Structural Fire Suppression
 - 1. Building Construction
 - 2. Fire Behavior
 - 3. Extinguishing Fire with Fire Extinguishers
 - 4. Water Supply Systems
 - 5. Cleaning, Inspecting and Returning Fire Hose to Service
 - 6. Deploy and Connect Fire Hose
 - 7. Utility Control at Emergencies
 - 8. Cleaning, Inspecting and Maintaining Fire Service Ladders
 - 9. Ground Ladder Operations
 - 10. Forcing Entry into a Structure
 - 11. Conducting a Search and Rescue Operation in a Structure
 - 12. Attacking an Interior Structure Fire
 - 13. Horizontal Ventilation Operations
 - 14. Vertical Ventilation Operations
 - 15. Conserving Property
 - 16. Overhauling a Fire Scene
- D. Unit 6: Fire Fighter Survival
 - 1. Structural Fire Fighter Survival
- E. Suppression of Fires Outside of a Structure
 - 1. Extinguishing Fires in Exterior Class A Materials
 - 2. Attacking a Passenger Vehicle Fire
 - 3. Combatting a Ground Cover Fire
- F. Fire Department Communications Unit 2 FF2
 - 1. Complete a basic incident report

- 2. Communicate the need for team assistance
- G. Fire Ground Operations Unit 3 FF2
 - 1. Extinguish an ignitable liquid fire
 - 2. Control a flammable gas liquid fire
 - 3. Coordinate an interior attack line
 - 4. Protecting evidence of cause and origin
- H. Rescue Operations Unit 4 FF2
 - 1. Extricate a victim entrapped in a motor vehicle
 - 2. Assist with special operations teams
- I. Fire and Life Safety Unit 5 FF2
 - 1. Perform a fire safety survey in an occupied structure
 - 2. Present fire safety information to station visitors or small groups
 - 3. Prepare a preincident survey
 - 4. Maintain power tools, lighting, and other equipment
 - 5. Perform an annual test of fire hose

VII. SLOs:

- A. Upon completion of FST 12A, the student should be able to identify, respond to, and mitigate an incident involving fire inside a structure

VIII. METHODS OF INSTRUCTION:

- A. **Audio-visual Activity** - Lectures on Firefighter 2019 Curriculum topics, specific to the module presented
- B. **Demonstration** - FF1 and FF2 Skills Demonstrated to the cadets . Skills can be found in California State Fire Training Firefighter 1 and Firefighter 2 Course Plan
- C. **Guest Lecturers** - PGE, Arson Unit and other Industry professionals to deliver some content to the cadets
- D. **Lab** - Hands-on drills with Firefighting equipment and tools
- E. **Observation** - Demonstration of the State of California Firefighter 2019 Curriculum 70+ Firefighter 1 skills and check off

IX. TYPICAL ASSIGNMENTS:

- A. Weekly Homework and Assignments on topics related to Firefighter 1 and Firefighter 2 curriculum
 - 1. Weekly Drills
 - 2. Weekly Quizzes
 - 3. Certification Exams at the end of the course

X. EVALUATION:

Methods/Frequency

- A. Exams/Tests
 - 2 Module Exams, Midterm, and Final; Third-Party Certifications Test on Several Subjects; Firefighter 1 and Firefighter Plus CSTI or HAZMAT test and Wildland Certification tests; Plus students will take the Firefighter 1 Certification written test while in the Fire Academy
- B. Quizzes
 - 13 Formative Exams will be given throughout the duration of the Fire Academy Structural Module
- C. Oral Presentation
 - One per semester
- D. Simulation
 - Firefighter 1 and 2 Tasks
- E. Class Participation
 - Mandatory. The Fire Academy has many specialty classes that can not be replicated and time may not be made up, meaning at times absences can not be excused.

XI. TYPICAL TEXTS:

- A. 1. IAFC --International Association of FIRE Chiefs /JBL Learning . *Essentials of Firefighting Skills* . 4th ed., Jones and Barlett, 2018.
- B. 2. Teie, William . *Firefighter's Handbook On Wildland Firefighting Strategy, Tactics and Safety*. 4th ed., FPP Fire Protection Publications/IFSTA, 2019.
- C. 3. Lowe, Joseph, and Jeff Pricher. *Wildland Firefighter: Principles and Practice*. 2nd ed., Jones & Bartlett Learning, 2020.
- D. CSTI California Specialized Training Institute . First Res-ponder Operations . CSTI , 2019.

XII. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. A complete list of Fire Academy Uniforms distributed the first day of classes. Fire Cadet PPE (Personal Protective Equipment): SCBA pack, Turn out Coat, Turn out Jacket, Helmet, Firefighting Boots, Safety Goggles. Structural PPE. Wildland PPE: Helmet with shroud, Wildland Pants, Wildland Jacket, Wildland Gloves, Wildland Packs, Fire Shelter. Class B Fire Academy Uniform: Class B Pants, Class B shirt, Tie, Boots, Belt, Name Tag. Athletic Gear: Shorts, T-shirts, Sweatshirt.
- B. FF1 and FF2 Certification Testing: \$250 Dollars. FSTPS Certificates: \$75 Dollars per certificate (at this time we are issuing AUTO EX, LARRO, Firefighter Safety and Survival, and Fire Control 3B certificates). Hazmat FRA, FRO, DECON Certificates and manuals: \$50. All these materials fees add up to around \$610-\$650 per student in our Fire Academy.



DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
State Fire Training Division
P.O. Box 944246
SACRAMENTO, CA 94244-2460
(916) 568-2911
Website: www.fire.ca.gov



Date: July 9, 2021

To: Statewide Training and Education Advisory Committee
State Board of Fire Services

From: Caryn Petty, Deputy State Fire Marshal III (Specialist)

SUBJECT/AGENDA ACTION ITEM:

Fire Fighter Certification Exam Simulation Provision

Recommended Actions:

Approval of Fire Fighter Certification Exam Simulation

Background Information:

State Fire Training (SFT) manages the Fire Fighter 1 and 2 curriculum, Certification Exams, and Certification requirements. SFT has 65 Accredited Regional Training Programs (ARTPs) and Accredited Local Academies (ALAs) currently administering the Certification Exams with student participation increasing exponentially. To accommodate the complexity of statewide participants, the Certification Exam processes have been expanded to allow for simulation of select Certification Exam skills.

Analysis/Summary of Issue:

In July 2020, SFT staff presented the option for Alternate Psychomotor Skill Evaluation allowing for immediate Certification Exam evaluation at the conclusion of the respective FSTEP course rather than delaying the Exam until the scheduled Certification Exam date. This provision is limited to only Fire Control 3 (new course or existing Fire Control 3A or 3B pending course retirements), Fire Control 4, and Vehicle Extrication. The skills associated with the select FSTEP courses require specialized equipment and props, therefore, the intent was to alleviate undue costs associated with personnel scheduling and additional equipment/prop acquisition. SFT regulation specifies that an Instructor of Record shall not be an Evaluator of Record during a Certification Exam, which resulted in a failure to reduce costs for personnel and logistics with the July 2020 provision.

Following a thorough review of current regulations, SFT considered expansion of the existing simulation provision in-place for Fire Control 3 to include FF2A (2019) Skills 3-1: Extinguish an Ignitable Liquid Fire, 3-2: Control a Flammable Gas Cylinder Fire, and 4-1: Extricate Victim Entrapped in a Motor Vehicle. SFT provides for live-fire simulation on FF1A (2019) Skill Sheet 3-10c: Attack a Simulated Interior Structure Fire following successful student completion of a registered Fire Control 3 FSTEP course. Completion of the course requires demonstrated proficiency in live-fire attack and extinguish, thereby justifying the fire simulation during the 3-10c: Attack a Simulated Interior Structure Fire skill.

It is proposed that the FF2A (2019) identified Certification Exam Random Skills be provided simulation provision following successful student completion of registered Fire Control 4 and/or Vehicle Extrication FSTEP courses, respectively. Candidates whose course completion diplomas were issued more than three (3) years of the Certification Exam date are required to attend and successfully complete an updated course. Candidates unable to meet this requirement must complete the assigned skill without the option of simulation. Completion of each course requires demonstrated skill proficiency and application, thereby justifying simulation during the Random Skills portion of the Certification Exam evaluation as outlined below.

Skill 3-1: Extinguish an Ignitable Liquid Fire

Following successful completion of a registered FSTEP Fire Control 4 course, students may simulate foam application by verbalizing the appropriate foam concentration and its concentration preparation. Student must then prepare the apparatus and component assembly and simulate agent discharge. The student shall maintain team protection and complete the action of safe haven retreat.

Skill 3-2: Control a Flammable Gas Cylinder Fire

Following successful completion of a registered FSTEP Fire Control 4 course, students may simulate a gas cylinder fire by completing all skill sheet line items without live-fire. All skill sheet items shall be completed by the student.

Skill 4-1: Extricate Victim Entrapped in a Motor Vehicle

Following successful completion of a registered FSTEP Vehicle Extrication course, students may utilize a simulation prop for skill completion. The prop shall be constructed of materials similar to that of a passenger vehicle and be equipped with a minimum of two (2) different access points including roof, doors, windshield/windows, steering wheel and/or column, and/or dashboard. The vehicle prop must allow for stabilize and cribbing/shoring points.

It is the responsibility of the Registered Lead Evaluator and respective Accredited Academy to ensure all candidates have completed the required registered FSTEP courses to be eligible for simulation. Candidates who have not completed the FSTEP courses or have course completion diplomas exceeding the three (3) year time limit, are not eligible for simulation.

Attachments:
Photo – Compliant Vehicle Extrication Prop, example





4-1: Extract a Victim Entrapped in a Motor Vehicle

Candidate Information
Candidate Name and SFT ID Number:
Circle One: Day 1 First Attempt / Day 1 Second Attempt / Day 2 First Attempt / Day 2 Second Attempt
General Information
NFPA Standard: 1001 (2019), JPR 5.4.1 / CTS Guide: 4-1 / Course Plan: Fire Fighter 2A, Topic 4-1
Performance Outcome: Demonstrate how to extricate a victim entrapped in a motor vehicle as part of a team, so that the vehicle is stabilized, the victim is disentangled without further injury, and hazards are managed.
Candidate Directions: You will demonstrate the proper methods for extricating a victim entrapped in a motor vehicle as part of a team. The test will begin when I say, "start." The test will end when you say, "done." Do you understand the directions?

Performance Measures (check appropriate box)	Pass	Fail
The candidate must complete all steps (100%) to receive a passing score.		
1. Wears and uses appropriate PPE/SCBA/equipment at all times during evaluation		
2. Demonstrate a minimum two (2) different techniques for moving or removing: <ul style="list-style-type: none"> • Vehicle roof • Vehicle doors • Vehicle windshields and window • Vehicle steering wheels and/or columns • Vehicle dashboards 		
3. Describes how to size up situation to: <ul style="list-style-type: none"> • Identify and manage hazards • Determine required stabilization • Select appropriate extrication techniques 		
4. Demonstrate how to stabilize vehicle using cribbing and/or shoring material, as necessary		
5. Demonstrate how to operate hand and power extrication tools		
6. Demonstrate how to perform extrication techniques and disentangle victim without causing further injury		

Evaluation Results
Overall Evaluation: Pass / Fail (circle one)
Student Signature / Date:
Evaluator Signature / Date:
Comments:



Structure (2019)

Course Plan

Course Details

Certification: Fire Fighter 2

CTS Guide: Fire Fighter 2 Certification Training Standards Guide (January 2020)

Description: This course provides the skills and knowledge needed for the fire fighter to take on increased leadership roles and responsibilities pertaining to fire department communications, fireground operations, rescue operations, and fire and life safety initiatives, preparedness, and maintenance.

Designed For: Fire fighters

Prerequisites: Prerequisites must be completed prior to enrollment in this course.

- State Fire Training's Fire Fighter 1 – Structure training or an established equivalent
- Public Safety First Aid or higher qualification (*See SFT Procedures Manual* (January 2019) section 7.12.3 for requirements.)
- CPR healthcare provider certification or equivalent (*See SFT Procedures Manual* (January 2019) section 7.12.3 for requirements.)

Corequisites: None

Standard: Complete all activities, skills, and formative tests.

Complete all summative tests with a minimum score of 80%.

Hours (Total): 48 hours

(20 lecture / 28 application / AHJ determines practice and assessment times)

Maximum Class Size: 50

Instructor Level: Fire Fighter Instructor (*See SFT Procedures Manual* (January 2019) section 6.6 for requirements.)*

Instructor/Student Ratio: 1:50 (Lecture) / 1:10 (Application)*

Restrictions: None

SFT Designation: CFSTES

* If any portion of this course curriculum is taught using another course plan, the instructor level and ratio of that course plan supersedes this requirement.

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Required Resources

Instructor Resources

To teach this course, instructors need:

- *Fundamentals of Fire Fighter Skills and Hazardous Materials Response* (Jones and Bartlett Learning, 4th edition, ISBN: 978-1-284-15133-6)
or
Essentials of Fire Fighting (IFSTA, 7th edition, ISBN: 978-087939657-2)
- NFPA 704: Standard System for the Identification of the Hazards of Materials for Emergency Response (current edition)
- NFPA 901: Standard Classifications for Incident Reporting and Fire Protection Data (current edition)
- NFPA 1001: Standard for Fire Fighter Professional Qualifications (current edition)
- NFPA 1962: Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances (current edition)
- NFPA 1971: Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting (current edition)
- Full structural PPE and SCBA that meets AHJ requirements
 - PPE and SCBA used during live burns must be compliant with NFPA 1971 (current edition)

Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/divisions/state-fire-training/cfstes-professional-certification/fire-fighter-2-2019/>:

- Fire Fighter 2 Skill Sheets
 - 1-1: Organize an Incident Management System
 - 2-1: Complete a Basic Incident Report
 - 2-2: Communicate the Need for Team Assistance
 - 3-1: Extinguish an Ignitable Liquid Fire
 - 3-2: Control a Flammable Gas Cylinder Fire
 - 3-3: Coordinate an Interior Fire Attack Line
 - 3-4: Protect Evidence of Fire Cause and Origin
 - 4-1: Extricate a Victim Entrapped in a Motor Vehicle
 - 4-2: Assist a Rescue Operations Team
 - 5-1: Perform a Fire Safety Survey in an Occupied Structure
 - 5-2: Present Fire Safety Information
 - 5-3: Prepare a Preincident Survey
 - 5-4: Maintain Power Plants, Tools, and Equipment
 - 5-5: Perform an Annual Service Test on a Fire Hose

Student Resources

To participate in this course, students need:

- *Fundamentals of Fire Fighter Skills and Hazardous Materials Response* (Jones and Bartlett Learning, 4th edition, ISBN: 978-1-284-15133-6)
or
Essentials of Fire Fighting (IFSTA, 7th edition, ISBN: 978-087939657-2)
- Full structural PPE and SCBA that meets AHJ requirements
 - PPE and SCBA used during live burns must be compliant with NFPA 1971 (current edition)

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel* are required to deliver this course:

- **Appliances and tools:** 1 ½-inch fog nozzle, 2 ½ - 1 1/8-inch straight tip nozzle, wildland nozzles and appliances, cap, double female fittings, double male fittings, hose clamps, hose jacket, hose roller, hose strap, rope, or chain, nozzle selection as determined by AHJ, plug, master stream device, traffic and scene control devices, reducer or increaser (fittings), Siamese, spanner wrenches, and gated wye
- **Extinguishers and supplies:** Dry chemical extinguisher, (ordinary base or multi-purpose) 20 pounds, CO₂ extinguisher, pump tank water extinguisher, Class A fuel for live burns, Class B fuel for live burns, and metal pan – minimum 16 square feet
- **Hose:** 1-, 1 ½- or 1 ¾-inch fire hose (300-foot minimum), 2 ½- or 3-inch fire hose (500-foot minimum), large diameter hose (LDH) (300-foot minimum), handline with fog nozzle, hard suction (intake) hose and strainer, hose and nozzles capable of flowing a minimum of 95 GPM, and soft suction hose
- **Hand tools:** Bolt cutters, crowbar/pry bar, flat head axe, halligan tool, hand saw, hydrant wrench, K-tool, pick-head axe, pike pole (8 feet), sledgehammer, flashlight, and wildland hand tools and equipment
- **Ladders:** 10-foot folding ladder, 14-foot roof ladder, 24-foot extension ladder, 35-foot extension ladder, and two straight ladders
- **Power tools:** Electric and gasoline powered fan, chain saw, gasoline powered circular saw, and a generator
- **Protective equipment/clothing:** Full set of protective clothing for structural fire fighting for each trainee, including bunker pants, bunker coat, bunker boots, gloves, helmet, hood, and face piece, self-contained breathing apparatus with charged air cylinder, (one extra fully charged air cylinder), personal alert safety system (P.A.S.S.), safety harness, manufacturer approved cleaning agent (for SCBA), manufacturer approved cleaning equipment (for SCBA), and manufacturer approved sanitizing agent (for SCBA)
- **Rope:** ½-inch rope, safety line, webbing, various lengths and diameters of utility rope, various lengths and diameters of synthetic rope, and various lengths of 1-person or 2-person life safety rope

- **Salvage equipment/materials:** Brooms, buckets, tubs, mops, objects to cover, salvage covers, squeegees, sprinkler stop, and water vacuums
- **Simulation equipment/materials:** Burn building as recommended in NFPA 1403: Standard on Live Fire Training (current edition), wood roof prop, smoke-generating equipment, training tower, minimum of two stories in height, gas, water, and electric service cut-off, vehicle fire prop, and a simulated breaching/restricted passageway prop
- **Other supplies/equipment needed:** Fire hydrant, pitot tube and gauge, portable radio, thermal imaging device, atmospheric monitor, standard above ground fall protection, minimum of two apparatuses equipped with pump and two separate water supplies, fuel and supplies for power equipment, cleaning supplies and equipment, portable lighting equipment, two portable tanks with water transfer equipment and appliances

* See NFPA 1403 (2018 or current edition) for additional facilities, equipment, and personnel requirements needed for NFPA 1403-compliant live fire training evolutions.

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Topic 1-2: Fire Fighter 2 Certification Process	0.5	0.0	
Topic 1-3: Fire Fighter 2 Roles and Responsibilities	1	0.0	
Unit 1 Totals	2.0	0.0	2.0
Unit 2: Fire Department Communications			
Topic 2-1: Completing a Basic Incident Report	1.0	0.5	
Topic 2-2: Communicating the Need for Team Assistance	0.5	0.5	
Unit 2 Totals	1.5	1.0	2.5
Unit 3: Fireground Operations			
Topic 3-1: Extinguishing an Ignitable Liquid Fire	2.0	4.0	
Topic 3-2: Controlling a Flammable Gas Cylinder Fire	2.0	4.0	
Topic 3-3: Coordinating an Interior Attack Line	2.0	6.5	
Topic 3-4: Protecting Evidence of Fire Cause and Origin	1.5	0.5	
Unit 3 Totals	7.5	15.0	22.5
Unit 4: Rescue Operations			
Topic 4-1: Extricating a Victim Entrapped in a Motor Vehicle	2.0	6.0	
Topic 4-2: Assisting Rescue Operation Teams	2.0	0.0	
Unit 4 Totals	4.0	6.0	10.0
Unit 5: Fire and Life Safety			
Topic 5-1: Performing a Fire Safety Survey in an Occupied Structure	1.0	1.0	
Topic 5-2: Presenting Fire Safety Information to Station Visitors or Small Groups	1.0	1.0	
Topic 5-3: Preparing a Preincident Survey	1.0	2.0	
Topic 5-4: Maintaining Power Plants, Power Tools, and Lighting Equipment	1.0	1.0	
Topic 5-5: Performing an Annual Service Test on Fire Hose	1.0	1.0	
Unit 5 Totals	5.0	6.0	11.0
Summative Assessment			
Determined by AHJ or educational institution	TBD	TBD	TBD
Skills Practice (Lab / Sets and Reps)			
Determined by AHJ or educational institution	TBD	TBD	TBD
Course Totals	20.0	28.0	48.0

Time Table Key

1. The Time Table documents the amount of time required to deliver the content included in the course plan.
2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.
3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.
4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size identified in the Course Details section.
5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, skills exercises, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
 - Restroom locations
 - Food locations
 - Smoking locations
 - Emergency procedures
2. Identify classroom requirements
 - Start and end times
 - Breaks
 - Electronic device policies
 - Special needs and accommodations
 - Other requirements as applicable
3. Review course syllabus
 - Course objectives
 - Calendar of events
 - Course requirements
 - Student evaluation process
 - Assignments
 - Activities and skills exercises
 - Required student resources
 - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: None

Skill Sheet: None

Topic 1-2: Fire Fighter 2 Certification Process

Terminal Learning Objective

At the end of this topic a student will be able to identify the requirements for Fire Fighter 2 certification and be able to describe the certification task book and examination process.

Enabling Learning Objectives

1. Identify the different levels of certification in the Fire Fighter certification track
 - Fire Fighter 1
 - Fire Fighter 2
2. Identify the prerequisites for Fire Fighter 2 certification
3. Identify the course work required for Fire Fighter 2 certification
4. Identify the certification exams required for Fire Fighter 2 certification
5. Identify the task book requirements for Fire Fighter 2 certification
6. Identify the experience requirements for Fire Fighter 2 certification
7. Identify the position requirements for Fire Fighter 2 certification
8. Describe the certification task book process
9. Describe the certification examination process

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. Use the *SFT Procedures Manual (2019)* (7.12.2 Fire Fighter 2) content for ELOs 2 through 7.
2. Use a copy of the Fire Fighter 2 Certification Task Book to walk students through the task book process and expectations for ELO 8.
3. Use the *SFT Procedures Manual (2019)* (Chapter 11: Fire Fighter Certification Exams) content for ELO 9.

CTS Guide Reference: None

Skill Sheet: None

Topic 1-3: Fire Fighter 2 Roles and Responsibilities

Terminal Learning Objective

At the end of this topic a student will be able to describe the role of the Fire Fighter 2 as identified by NFPA 1001: Standard for Fire Fighter Professional Qualifications (current edition) and the Office of the State Fire Marshal.

Enabling Learning Objectives

1. Describe the responsibilities of the Fire Fighter 2 in assuming and transferring command within an incident command system (ICS)
2. Describe how to perform assigned duties in conformance with applicable NFPA standards, other safety regulations, and AHJ procedures
3. Identify the role of a Fire Fighter 2 within the organization
4. Determine the need for command
5. Organize and coordinate an incident command system until command is transferred
6. Function within an assigned role in an incident management system

Discussion Questions

1. How do the roles and responsibilities of a Fire Fighter 2 differ from those of a Fire Fighter 1?

Application

1. Determined by instructor

Instructor Notes:

1. None

CTS Guide Reference: 1-1

Skill Sheet: 1-1: Organize an Incident Management System

Unit 2: Fire Department Communications

Topic 2-1: Completing a Basic Incident Report

Terminal Learning Objective

At the end of this topic a student, given report forms, guidelines, and information, will be able to complete a basic incident report so that all pertinent information is recorded, the information is accurate, and the report is complete.

Enabling Learning Objectives

1. Identify content requirements for basic incident reports
 - Program reporting systems
 - Software must be compliant with National Fire Incident Reporting System (NFIRS) or NFPA 901: Standard Classifications for Incident Reporting and Fire Protection Data (current edition)
 - California Fire Incident Reporting System (CalFIRS), Firehouse, Image Trend, etc.
 - Other electronic collection programs
 - Information collected
 - Incident type
 - Incident origin and growth
 - Fire department intervention
 - Personnel and parties involved
 - Writing style
 - Clear and concise language
 - Proper grammar and spelling
 - Appropriate use of abbreviations/acronyms
 - Legible handwriting (if not electronic)
 - Proof reading
2. Identify the purpose and usefulness of accurate reports
 - Data, statistics, and trends
 - Fire activity analysis
 - Community risk reduction
 - Insurance claims
 - Liability reduction
3. Identify consequences of inaccurate reports
 - False data analysis
 - Possible legal consequences
4. Describe how to obtain necessary information
 - Personal observation
 - Interviews
5. Identify required coding procedures
6. Determine necessary codes
7. Proof reports

8. Demonstrate fire department computers or other equipment necessary to complete reports

Discussion Questions

1. What is National Fire Incident Reporting System (NFIRS)?
2. Why are fire reports important the AHJ? Why are they important to the public?
3. What are the potential consequences or incomplete or inaccurate reports?

Application

1. Given an event scenario and an AHJ report form or template, have students prepare and code a basic incident report.

Instructor Notes:

1. ELO 1: See U.S. Fire Administration course [National Fire Incident Reporting System 5.0 Self-Study \(Q0494\)](#) as a recommended resource.
2. Provide students with sample AHJ reports as examples.

CTS Guide Reference: 2-1

Skill Sheet: 2-1: Complete a Basic Incident Report

Topic 2-2: Communicating the Need for Team Assistance

Terminal Learning Objective

At the end of this topic a student, given fire department communications equipment, SOPs, and a team, will be able to communicate the need for team assistance so that the supervisor is consistently informed of team needs, departmental SOPs are followed, and the assignment is accomplished safely.

Enabling Learning Objectives

1. Describe standard operating procedures (SOPs) for alarm assignments
 - Alarm assignments are a predetermined allocation of resources specific to AHJs
 - SOPs are predetermined operations to mitigate incident objectives depending on nature and complexity
 - Emergency scene operations rely on consistent SOPs and methods
 - Risk assessment may influence incident goals and priorities
2. Describe fire department radio communication procedures
3. Demonstrate proper operation of fire department communications equipment

Discussion Questions

1. What methods of communication do personnel use on an emergency scene?
2. What is the importance of radio discipline?

Application

1. Given simulated situations, have students identify the proper channel for communication on a fire department radio.

Instructor Notes:

1. Describe interoperability of radios and equipment between different fire agencies.

CTS Guide Reference: 2-2

Skill Sheet: 2-2: Communicate the Need for Team Assistance

Unit 3: Fireground Operations

Topic 3-1: Extinguishing an Ignitable Liquid Fire

Terminal Learning Objective

At the end of this topic a student, given an assignment, an attack line, PPE, a foam proportioning device, a nozzle, foam concentrates (or suitable substitute), and a water supply, will be able to extinguish an ignitable liquid fire, operating as a member of a team, so that the correct type of foam concentrate is selected for the given fuel and conditions, a properly proportioned foam stream is applied to the surface of the fuel to create and maintain a foam blanket, fire is extinguished, reignition is prevented, team protection is maintained with a foam stream, and the hazard is faced until retreat to safe haven is reached.

Enabling Learning Objectives

1. Describe how foam prevents or controls a hazard
 - Separating
 - Cooling
 - Smothering
2. List principles by which foam is generated
 - Foam proportioner
 - Aeration
3. Identify causes of and corrective measures for poor foam generation
 - Incorrect ratios of water, concentrate, and air
4. Describe the difference between hydrocarbon and polar solvent fuels and the concentrates that work on each
 - Hydrocarbon fuels
 - Petroleum based
 - Combustible or flammable
 - Float on water
 - Polar solvent fuels
 - Flammable liquids
 - Mix readily with water
 - Class B foam is utilized for both
5. Identify the characteristics, uses, and limitations of fire-fighting foams
 - Class A
 - Class B
6. Describe the advantages and disadvantages of using fog nozzles versus foam nozzles for foam application
 - Fog nozzle
 - Advantage: Produces low expansion short lasting foam, widely available on most apparatus
 - Disadvantage: May not create the same quality of foam as foam nozzles

- Foam nozzle
 - Advantage: Most effective for generation of low, medium, or high expansion foam
 - Disadvantage: Not as versatile as a fog nozzle and generally does not have the same reach
- 7. Describe foam stream application techniques
 - Rain down
 - Roll in/on
 - Bounce off/Bank down
- 8. List hazards associated with foam usage
 - Can degrade PPE
 - Most are mildly corrosive
 - Environmental impacts
 - Health impacts
- 9. Describe methods to reduce or avoid hazards
 - Maintain foam blanket to reduce risk of reignition
 - Avoid standing in pools of fuel or run-off water
- 10. Prepare a foam concentrate (or suitable substitute) for use
- 11. Assemble foam stream components
- 12. Master various foam application techniques
- 13. Approach and retreat from spills as part of a coordinated team.

Discussion Questions

1. What types of foam are used during fire fighting operations?
2. What are some limitations of foam use?
3. What are some hazards of foam use?

Application

1. Given an assignment, an attack line, PPE, a foam proportioning device, a nozzle, foam concentrates (or suitable substitute), and a water supply, have students extinguish a simulated or ignitable liquid fire as a member of a team.

Instructor Notes:

1. The content in this topic can be fulfilled through completion of State Fire Training's Fire Control 4: Controlling Ignitable Liquids and Gases (FSTEP) course.
2. If unable to demonstrate foam application due to cost or environmental restrictions:
 - Use digital sources to review foam application.
 - Demonstrate using dish soap, bucket, and eductor.

CTS Guide Reference: 3-1

Skill Sheet: 3-1: Extinguish an Ignitable Liquid Fire

Topic 3-2: Controlling a Flammable Gas Cylinder Fire

Terminal Learning Objective

At the end of this topic a student, given an assignment, a cylinder outside of a structure, an attack line, PPE, and tools, will be able to control a flammable gas cylinder fire, operating as a member of a team, so that crew integrity is maintained, contents are identified, safe havens are identified prior to advancing, open valves are closed, flames are not extinguished unless the leaking gas is eliminated, the cylinder is cooled, cylinder integrity is evaluated, hazardous conditions are recognized and acted upon, and the cylinder is faced during approach and retreat.

Enabling Learning Objectives

1. Identify characteristics of pressurized flammable gases
2. List elements of a gas cylinder
3. Describe effects of heat and pressure on closed cylinders
4. Describe boiling liquid expanding vapor explosion (BLEVE) signs and effects
5. Describe methods for identifying contents
6. Describe how to identify safe havens before approaching flammable gas cylinder fires
7. Describe water stream usage and demands for pressurized cylinder fires
8. Describe what to do if the fire is prematurely extinguished
9. Identify valve types and their operation
10. Describe alternative actions related to various hazards and when to retreat
11. Execute effective advances and retreats
12. Apply various techniques for water application
13. Assess cylinder integrity and changing cylinder conditions
14. Operate control valves
15. Choose effective procedures when conditions change

Discussion Questions

1. What happens to a gas cylinder when exposed to fire conditions?
2. What safety precautions should be taken in anticipation of a BLEVE?
3. Why is it a problem if a venting tank fire is extinguished prematurely?

Application

1. Given a cylinder outside of a structure, an attack line, PPE, and tools, have students control a simulated flammable gas cylinder fire as a member of a team.

Instructor Notes

1. The content in this topic can be fulfilled through completion of State Fire Training's Fire Control 4: Controlling Ignitable Liquids and Gases (FSTEP) course.

CTS Guide Reference: 3-2

Skill Sheet: 3-2: Control a Flammable Gas Cylinder Fire

Topic 3-3: Coordinating an Interior Attack Line

Terminal Learning Objective

At the end of this topic a student, given attack lines, personnel, PPE, and tools, will be able to coordinate an interior attack line for a team's accomplishment of an assignment in a structure fire so that crew integrity is established; attack techniques are selected for the given level of the fire (e.g., attic, grade level, upper levels, or basement); attack techniques are communicated to the attack teams; constant team coordination is maintained; fire growth and development is continuously evaluated; search, rescue, and ventilation requirements are communicated or managed; hazards are reported to the attack teams; and incident command is apprised of changing conditions.

Enabling Learning Objectives

1. Describe how to select the nozzle and hose for fire attack
2. Describe how to select adapters and appliances to be used for specific fireground situations
3. Identify dangerous building conditions created by fire and fire suppression activities
 - Collapse
 - Increased water weight
 - Building construction
 - Improper ventilation
 - Flow path
 - Flashover
 - Rapid fire development
 - Smoke (volume, velocity, density, and color)
4. Describe indicators of building collapse
5. List indicators of structural instability
6. Describe the effects of fire and fire suppression activities on wood, masonry (brick, block, stone), cast iron, steel, reinforced concrete, gypsum wallboard, glass, and plaster on lath
7. Describe coordinated search and rescue and ventilation procedures
8. Describe suppression approaches and practices for various types of structural fires
 - Offensive vs. defensive
 - Traditional vs. transitional
 - Direct vs. indirect
9. Describe the association between specific tools and special forcible entry needs
10. Assemble a team
11. Choose attack techniques for various levels of a fire (e.g., attic, grade level, upper levels, or basement)
12. Evaluate and forecast a fire's growth and development
13. Select tools for forcible entry
14. Incorporate search and rescue procedures and ventilation procedures in the completion of the attack team efforts
15. Determine developing hazardous building or fire conditions

Discussion Questions

1. What are some considerations for line selection and placement?
2. Why is reading smoke essential for fire fighter safety?
3. What are some indicators of a below grade or basement fire?

Application

1. Given a simulated scenario, attack lines, personnel, PPE, and tools, have students work in teams to coordinate an interior attack line.

Instructor Notes

1. None

CTS Guide Reference: 3-3

Skill Sheet: 3-3: Coordinate an Interior Fire Attack Line

Topic 3-4: Protecting Evidence of Fire Cause and Origin

Terminal Learning Objective

At the end of this topic a student, given a flashlight, *PPE*, and overhaul tools, will be able to protect evidence of fire cause and origin so that the evidence is noted and protected from further disturbance until investigators can arrive on the scene.

Enabling Learning Objectives

1. Identify methods to assess fire origin and cause
2. List types of evidence
3. Describe means to protect various types of evidence
4. Identify the role and relationship a Fire Fighter 2 during fire investigations with:
 - Criminal investigators
 - Insurance investigators
5. Describe the effects and problems associated with removing property or evidence from the scene
6. Locate the fire's origin area
7. Recognize possible causes
8. Protect the evidence

Discussion Questions

1. What is the difference between fire cause and fire origin?
2. Why is it important to determine the area of origin prior to initiating overhaul operations?
3. What are some ways to protect potential evidence?

Application

1. Given a simulated scenario, video, or photographs, have students determine the fire's area of origin and possible causes and describe how they would protect potential evidence.

Instructor Notes

1. None

CTS Guide Reference: 3-4

Skill Sheet: 3-4: Protect Evidence of Fire Cause and Origin

Unit 4: Rescue Operations

Topic 4-1: Extricating a Victim Entrapped in a Motor Vehicle

Terminal Learning Objective

At the end of this topic a student, given stabilization and extrication tools, a vehicle, and PPE, will be able to extricate a victim entrapped in a motor vehicle as part of a team so that the vehicle is stabilized, the victim is disentangled without further injury, and hazards are managed.

Enabling Learning Objectives

1. Describe the fire department's role at a vehicle accident
2. Describe points of strength and weakness in auto body construction
3. Describe dangers associated with vehicle components and systems
4. Describe the uses and limitations of hand and power extrication equipment
5. Describe safety procedures when using various types of extrication equipment
 - Hazards and dangers associated with emergency scene requiring extrication
 - Basic fire protection with charged hose line and/or fire extinguisher
6. Operate hand and power tools used for forcible entry and rescue as designed
7. Use cribbing and shoring material
8. Use stabilization tools and equipment
9. Choose and apply appropriate techniques for moving or removing vehicle roofs, doors, seats, windshields, windows, steering wheels or columns, and the dashboard

Discussion Questions

1. What safety concerns are associated with alternative fuel vehicle extrication?
2. What safety precautions should a fire fighter take when working on modern vehicles?
3. What level of personal protective equipment should a fire fighter use during vehicle extrication?

Application

1. Given a stimulated scenario, stabilization and extrication tools, a vehicle or prop, and PPE, have students work in teams to extricate a victim entrapped in a motor vehicle.

Instructor Notes

1. The content in this topic can be fulfilled through completion of State Fire Training's Auto Extrication (FSTEP) course.

CTS Guide Reference: 4-1

Skill Sheet: 4-1: Extricate a Victim Entrapped in a Motor Vehicle

Topic 4-2: Assisting Rescue Operation Teams

Terminal Learning Objective

At the end of this topic a student, given standard operating procedures, necessary rescue equipment, and an assignment, will be able to assist rescue operation teams so that procedures are followed, rescue items are recognized and retrieved in the time as prescribed by the AHJ, and the assignment is completed.

Enabling Learning Objectives

1. Identify types of rescue operations
 - Structural collapse
 - Trench collapse
 - Cave and/or tunnel emergencies
 - Confined space emergencies
 - Water and/or ice emergencies
 - Elevator emergencies
 - Escalator emergencies
 - Energized electrical line emergencies
 - Industrial accidents
 - Wilderness search and rescue
2. Describe the fire fighter's role at technical rescue operations
3. Identify hazards associated with technical rescue operations
4. Describe types and uses of rescue tools
5. Identify rescue practices and goals
6. Identify and retrieve various types of rescue tools
7. Establish public barriers
8. Assist rescue teams as a member of the team when assigned

Discussion Questions

1. What level of personal protective equipment is appropriate for a [choose one type] rescue?
2. What hazards are associated with a [choose one type] rescue?
3. Why is operational discipline important during technical rescue incidents?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: 4-2

Skill Sheet: 4-2: Assist a Rescue Operations Team

Unit 5: Fire and Life Safety

Topic 5-1: Performing a Fire Safety Survey in an Occupied Structure

Terminal Learning Objective

At the end of this topic a student, given survey forms and procedures, will be able to perform a fire safety survey in an occupied structure so that fire and life safety hazards are identified, recommendations for their correction are made to the occupant, and unresolved issues are referred to the proper authority.

Enabling Learning Objectives

1. Describe AHJ policy and procedures
2. List common causes of fire and their prevention
3. Describe the importance of a fire safety survey and public fire education programs to fire department public relations and the community
4. Identify referral procedures utilized by the AHJ
5. Complete forms
6. Recognize hazards
7. Match findings to preapproved recommendations
8. Effectively communicate findings to occupants or referrals

Discussion Questions

1. What is it important to conduct fire safety surveys at occupied structures?
2. What are some essential items to inspect during fire safety surveys?
3. What are common causes of fire in occupied structures?

Application

1. Given a survey form or checklist and a location, have students demonstrate the proper method to perform a fire safety survey and communicate results to the occupant or referral entity.

Instructor Notes

1. None

CTS Guide Reference: 5-1

Skill Sheet: 5-1: Perform a Fire Safety Survey in an Occupied Structure

Topic 5-2: Presenting Fire Safety Information to Station Visitors or Small Groups

Terminal Learning Objective

At the end of this topic a student, given prepared materials, will be able to present fire safety information to station visitors or small groups so that all information is presented, the information is accurate, and questions are answered or referred.

Enabling Learning Objectives

1. Describe parts of informational materials and how to use them
 - Example programs include:
 - Stop, drop, and roll when clothes are on fire
 - Crawl low under smoke
 - Plan and practice a home escape plan with two ways out of each room (especially sleeping rooms), a meeting place, and how to call the fire department (from the neighbor's house)
 - Alert others to an emergency
 - Call the fire department
 - Test and maintain residential smoke alarms according to manufacturer's instructions
2. Identify basic presentation skills
 - Select materials and activities appropriate to age and audience
 - Learning level
 - Physical capabilities
 - Three step delivery
 - Introduce what you are going to tell them
 - Tell them the information
 - Summarize what you told them
 - Consistent messaging
3. Describe departmental standard operating procedures for giving fire station tours
4. Describe how to complete a "public contact report"
 - Information for public outreach program analytics
 - Replacement/restock of educational materials
5. Document presentations
6. Use prepared materials

Discussion Questions

1. What types of presentations might a fire fighter deliver?
2. Why is it important to give age appropriate presentations?
3. Why is it important to deliver a consistent message?

Application

1. Given AHJ talking points and an identified audience, have students work in groups to create and deliver a five-minutes presentation with peer review and feedback.

Instructor Notes:

1. Recommended resources for additional student learning:
 - NFPA: "Learn Not to Burn" Preschool Program

(<https://www.nfpa.org/Public-Education/Resources/Education-Programs/Learn-not-to-burn/Learn-Not-to-Burn-Preschool-Program>)

- FEMA: Fire Prevention and Public Education
(<https://www.usfa.fema.gov/prevention/>)

CTS Guide Reference: 5-2

Skill Sheet: 5-2: Present Fire Safety Information

Topic 5-3: Preparing a Preincident Survey

Terminal Learning Objective

At the end of this topic a student, given forms, necessary tools, and an assignment, will be able to prepare a preincident survey so that all required occupancy information is recorded, items of concern are noted, and accurate sketches or diagrams are prepared.

Enabling Learning Objectives

1. Describe AHJ requirements for a preincident survey and documentation
2. Describe how fire involvement impacts strategy and tactics
 - 25% vs. 50% vs. 75% vs. 100% involvement
3. Identify water supply sources for fire protection
4. Identify basic components of fire suppression and detection systems
 - Identify general system locations
5. Identify common symbols used to diagram:
 - Construction features
 - Utilities
 - Hazards
 - Fire protection systems
 - NFPA 704 placarding program
6. Identify the importance of accurate diagrams
7. Sketch the site, buildings, and special features
8. Detect hazards and special considerations to include in the preincident sketch
9. Complete all related AHJ documentation

Discussion Questions

1. What are the essential components of a preincident plan?
2. When should you update a preincident plan?

Application

1. Given a location and level of fire involvement, have students work in small groups to prepare a preincident survey that records tactical and strategic options.

Instructor Notes:

1. Recommended resources for additional student learning:
 - Frequently Asked Questions on NFPA 704 (pdf)
(www.nfpa.org/Assets/files/AboutTheCodes/704/704_FAQs.pdf)

CTS Guide Reference: 5-3

Skill Sheet: 5-3: Prepare a Preincident Survey

Topic 5-4: Maintaining Power Plants, Power Tools, and Lighting Equipment

Terminal Learning Objective

At the end of this topic a student, given tools and manufacturers' instructions, will be able to maintain power plants, power tools, and lighting equipment so that equipment is clean and maintained according to manufacturer and departmental guidelines, maintenance is recorded, and equipment is placed in a ready state or reported otherwise.

Enabling Learning Objectives

1. Identify types of cleaning methods
2. Describe correct use of cleaning solvents
3. Describe manufacturer and AHJ guidelines for maintaining equipment and its documentation
4. Identify problem-reporting practices
5. Select correct tools
6. Follow guidelines
7. Complete recording and reporting procedures
8. Operate power plants, power tools, and lighting equipment

Discussion Questions

1. What types of cleaning methods are used for power plants, power tools, and lighting equipment?
2. What is the process for removing tools or equipment from service within your AHJ?

Application

1. Given tools, cleaning materials, and manufacturers specifications, have students clean and maintain designated tools.

Instructor Notes:

1. Bring referenced tools and equipment for display and demonstration.

CTS Guide Reference: 5-4

Skill Sheet: 5-4: Maintain Power Plants, Tools, and Equipment

Topic 5-5: Performing an Annual Service Test on Fire Hose

Terminal Learning Objective

At the end of this topic a student, given an apparatus or a hose testing device, a marking device, pressure gauges, a timer, record sheets, and related equipment, will be able to perform an annual service test on fire hose, so that procedures are followed, the condition of the hose is evaluated, any damaged hose is removed from service, and the results are recorded.

Enabling Learning Objectives

1. Describe procedures for safely conducting hose service testing
 - Use host testing equipment or tools that regulate water flow in case of equipment or hose failure
 - Keep area clear of personnel during test
 - Use proper helmets and PPE
 - Operate testing equipment using manufacturer guidelines
 - Maintain focus and avoid complacency
 - Comply with NFPA 1962
2. Identify indicators that dictate when hose should be removed from service
3. Describe AHJ procedures for documenting hose test results
4. Operate hose testing equipment and nozzles
5. Record results

Discussion Questions

1. What is the proper PPE for hose testing?
2. How often is hose testing conducted?
3. What equipment is used in conjunction with hose testing?
4. What type of injuries might occur during hose testing? How can they be prevented?

Application

1. Given an apparatus or hose testing device, hose, related equipment, and PPE, have students set up a hose service test, describe how they would execute the test and mark the hose, and identify the indicators they would look for to determine whether or not the hose should be removed from service.

Instructor Notes

1. None

CTS Guide Reference: 5-5

Skill Sheet: 5-5: Perform an Annual Service Test on a Fire Hose

How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer course and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details

The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources

The Required Resources segment identifies the resources, equipment, facilities, and personnel required to delivery the course.

Unit

Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics

Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective

A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives

The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master in order to complete the TLO.

Discussion Questions

The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application

The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes

The Instructor Notes segment documents suggestions and resources to enhance an instructor's ability to teach a specific topic.

CTS Guide Reference

The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet

The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.



Office of Administrative Services

(Wait 5-10s)

Requisition Request Form

R _____ - _____

Fiscal Year		Vendor ID #	Vendor Name			Date Required
Deliver To		Room #	Return Copy of Requisition To			
Seq	Item #	Description	Qty	Unit Price	Extended Cost	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
Comments				Subtotal		
				Tax		
				Shipping		
				Total Cost		
FOAP to be Charged			%	Amount		
-	-	-				
FUND	ORG	ACCOUNT	PROGRAM			
-	-	-				
FUND	ORG	ACCOUNT	PROGRAM			

Requestor (print name) _____ Date _____ Dean (signature) *Stuart McAdery* Date _____

Coordinator/Manager (signature) _____ Date _____ Vice President (signature) _____ Date _____

OFFICE OF ADMINISTRATIVE SERVICES USE ONLY

Reviewed: _____ Verified: _____ Approved: _____
Administrative Services Administrative Services Officer VP, Administrative Services

PO Number: _____ Budget Transfer #: _____ Entered: _____

TR 4/6/20



Price Quote For:
Las Positas College Fire
Academy

FireVent, LLC.
5998 Morgan Mill Rd.
Carson City, NV 89701
Phone: 775-230-9953 Fax: 775-883-2387

Date: 01 / 22 / 22

Billing Information		Shipping Address	
Agency:	Las Positas Community College	Agency:	
Contact:	Matthew Jewett	Contact:	
Address:	3000 Campus Hill Dr.	Address:	
City/state/zip:	Livermore, CA. 94551	City/State/Zip:	
Phone:	530-718-4853	Phone:	

Email: mjewett@laspositascollege.edu

Shipping
Method:

General Freight Carrier

Order Information:

Qty	Product Description	Amount Each	Amount
1	Auto-X Simulator		\$17,500.00
1	Consumables (30 Pieces 2x4 steel, 6 pieces 4ft 1" pipe)	\$375.00	Included
		Subtotal:	\$17,500.00
		Tax:	See note below
		Shipping:	\$285.00
		Total:	\$17,785.00

Notes:

- 1) FireVent, LLC will not charge or collect any out of state sales tax. Sales and/or Use tax must be settled by the buyer with their state. (If not tax exempt)
- 2) Forklift required to off load from delivery truck.
- 3) Due to fluctuating steel prices, quote is valid for 3 months.



**OPTIONS
AUTO-X SIMULATOR**

FireVent, LLC.
 5998 Morgan Mill Rd.
 Carson City, NV 89701
 Phone: 775-230-9953 Fax: 775-883-2387

Date: **2022**

Qty	Product Description	Amount Each	Amount
1	Tow Package – easily tow behind vehicle to desired location (comes standard with caster jack & caster system, to roll unit around)		\$1,400.00
1	Reset 30 Kit (30 Pieces 2x4 steel, 6 pieces 4ft 1" pipe, 3 wear plates, "Nader Pin" bolt & spring) 220lbs		\$375.00
1	Reset 50 Kit (50 Pieces 2x4 steel, 10 pieces 4ft 1" pipe, 3 wear plates, "Nader Pin" bolt & spring) 370lbs		\$615.00

Notes:

- We can give you the specs for the consumable pieces. You can obtain consumables in your area or order them from us. The consumable pieces can be recycled after use for some financial return.
- Consumable weight 1 - 2x4 steel 6lbs, 1 - 4ft pipe = 6.5lbs

FireVent®

FireFighting Training Equipment



US PATENTS # 8.360.782, # 9.646.515, # 10.242.594

The Hands-On Training You Need...Where You Need It.



www.FireVent.us

The Hands-On Training You Need...Where You Need It.

Extremely mobile, versatile and affordable. Designed to give firefighters valuable hands on training while remaining in service at their station. Numerous single engine or truck company evolutions. This heavy duty, rugged and self-contained unit is ideal for individual departments or to be shared by multiple agencies.



- Variable Pitch, Vertical Ventilation,
- Gable End Ventilation (Elevated Vertical Wall).
- Forcible Entry
- Overhead Door Forcible Entry/Cutting,
- Confined Space Entry.
- Activated Sprinkler Heads With Fire Department Connection.
- Salvage & Overhaul.
- Haz-Mat Dome Leak Simulator.
- Through The Floor / Basement Rescue.
- Ceiling (Sheet Rock) Pulling / Breaching.
- Second Story Window Rescue and Ladder Evolutions.
- Firefighter Bailout Window.
- Many Other Possible Training Evolutions



Mobile • Versatile • Affordable



Portable Units

FireVent's Portable Units are designed to be easy to set up and take down and move from location to location. These units are able to go from a flat position to a 12/12 pitch. There are currently two sizes available; 8ft x 12ft and 10ft x 16ft.



- Completely Portable, Easy To Set Up And Take Down.
- Use Outside Or Inside, At Individual Stations Or The Training Center.
- Two Sizes Currently Available: 8ft x 12ft & 10ft x 16ft.
- Able To Go From Flat To 12/12 pitch.
- All Tubular Steel Construction.
- All Components Are Powder Coated,
- Patent Pending





5998 MORGAN MILL RD CARSON CITY, NV 89701

P: 775.230.9953 F: 775.883.2387

info@FireVent.us

PRODUCT INFORMATION



Mobile Units

Our mobile units have a very unique, innovative and fully patented design that allows the props to open and close, from the traveling position to the training position, with the use of two heavy-duty hydraulic cylinders. Mobile FireVent units are much more than just ventilation props; they are multi-discipline training units. There are three base model units that can be customized and configured with numerous options to meet your department's needs



Stationary Units

Our stationary units are an excellent addition to a planned or established training center. Each stationary unit is extremely heavy duty and well made. They are custom-built at the time of order with the same high-quality materials and craftsmanship as the mobile units. The stationary units are designed and engineered in a modular fashion to enable ease of shipping and erecting on site. Stationary units can be placed and secured on a slab or footing style foundation



Auto-X Simulator

The Auto-X Simulator is excellent for entry-level learning (academy setting) or first-time exposure to the extrication tools (hydraulic spreaders, cutters, ram and sawzall, rotary saw, and rescue strut). The Auto-X allows for the safe use and operation of the tools in a controlled environment, with predictable results, and enables high repetition (lots of tool time) for students to gain confidence and understanding of the tools, making time spent with acquired vehicles far more productive.



www.FireVent.us