Course Outline for Fire Technology 11CAP

**FIRE FIGHTER I CAPSTONE TESTING**

**Catalog Description:**

FT 11CAP - Fire Fighter I Capstone Testing 1.50 units

This course prepares students to meet the State Fire Training (SFT) requirements for Fire Fighter I (FFI) including the capstone knowledge and skills necessary to pass. Upon successful completion, students will receive a pass letter from SFT. The course is 4 hours lecture, 71 hours laboratory, 40 hours skills practice, 3 hours certification written exam, and 24 hours certification skills evaluation.

**Prerequisite:** FT 90C (completed with a grade of "C" or higher) or FT 11 (completed with a grade of "C" or higher) Equivalent training to FT 11 or Completion of a Fire Fighter I Academy

**Grading Option:** Pass/No Pass

**Discipline:**

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<th>Units</th>
<th>Contact Hours</th>
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<tr>
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**Prerequisite Skills:**

Before entry into this course, the student should be able to:

1. don a structural personal protective ensemble so that all elements of the ensemble are worn according to manufacturer's guidelines, within 60 seconds;
2. don and activate a self-contained breathing apparatus (SCBA) within 60 seconds, and demonstrate the ability to use the SCBA during emergency operations;
3. respond on apparatus to an emergency scene, correctly mount and dismount the apparatus, use seatbelts while the vehicle is in motion, and correctly use other personal protective equipment;
4. establish and operate in work areas at emergency scenes, following procedures while wearing protective equipment, and establish attempted work areas as directed using traffic and scene control devices;
5. demonstrate the ability to receive a telephone call using correct procedures for answering the phone and relaying information;
6. initiate the response to a reported emergency, obtain all necessary information, correctly operate all communications equipment, and properly and accurately relay information to the dispatch center;
7. transmit and receive messages via the fire department radio and relay accurate, clear information within given personal protective equipment, the time established;
8. describe the history, features, principles, and organizational structure of the Incident Command System; explain the relationship between ICS and the National Incident Management System (NIMS); use ICS to manage an incident or event; describe the purpose of the NIMS components; and describe the purpose and response doctrine established by the National Response Framework;
9. tie designated knots appropriate for hoisting tools securely and as directed;
10. safely transport, operate, and maintain forcible entry equipment;
11. illuminate designated areas of the emergency scene and operate fire service electrical equipment within the manufacturer's listed safety precautions;
12. clean and maintain ladders, ventilation equipment, SCBA, ropes, salvage equipment, and hand tools according to manufacturers' or departmental guidelines, record equipment maintenance, and place equipment in a ready state or report otherwise;
13. describe common building materials and construction types, and identify dangerous building conditions created by fire;
14. identify and mitigate dangerous fire behavior conditions, while ensuring firefighter safety;
15. choose the correct extinguisher and follow the correct handling techniques to completely extinguish incipient Class A, Class B, and Class C fires;
16. connect a fire department engine to a water supply, ensuring tight connections and an unobstructed water flow, as a member of a team;
17. shut off building utilities in order to safely complete an assignment;
18. setup ground ladders, assess hazards, ensure ground ladders are stable and their angles are correct for climbing, extend extension ladders to the necessary height and locked their flies, Place the tops of the ladders against reliable structural components, and accomplish the assignment;
19. remove barriers and produce an opening that is safe and ready for use by forcing entry into a structure using tools as designed;
20. operating as a member of a team, conduct search and rescue in a structure, maintain team integrity, correctly place ladders when used, search all assigned areas, locate and remove all victims, and avoid compromising team members' safety, including respiratory protection;
21. operating as a member of a team, attack an interior structure fire, maintain team integrity, deploy the attack line for its advancement, correctly placed ladders when used, gain access into the fire area, effectively apply water, correctly approach the fire using attack techniques to facilitate suppression given the level of the fire, locate and control hidden fires, maintain the correct body posture, recognize and manage hazards, and bring the fire under control;
22. perform horizontal ventilation on a structure, free ventilation openings of obstructions, use tools as designed, Place ladders and ventilation devices correctly, and clear structure of smoke;
23. perform vertical ventilation on a structure, position ladders for ventilation, create a specified opening, remove all ventilation barriers, avoid compromising structural integrity, release products of combustion from the structure, and retreat from the area when ventilation...
is accomplished;
24. conserve property so that building and its contents are protected from further damage;
25. overhaul of fire scene without compromising structural integrity, discover all hidden fires, preserve fire cause evidence, and extinguish the fire;
26. activate an emergency call for assistance and exit the hazardous area without endangering others while maintaining team integrity;
27. extinguish fires in exterior Class A materials, protect exposures, stop the spread of fire, avoid collapse hazards, effectively applied water, extinguish the fire, and preserve signs of the origin area(s) and arson;
28. attack a passenger vehicle fire, avoid hazards, identifying control leaking flammable liquids, maintain protection from flash fires, overhaul all vehicle compartments, and extinguish the fire, while operating as part of the team;
29. assemble and prepare for a wildland response so that arrival at the incident with the required personnel and equipment meets agency guidelines;
30. don wildland personal protective clothing and shelter according to the manufacturers’ guidelines within 60 seconds; deploy a new generation fire shelter within 30 seconds; ensures serviceability and availability on the fire line; and recognize defects and report them to a supervisor;
31. recognize defects on wildland tools and equipment and report them to a supervisor; and maintain assigned suppression hand tools and equipment so that assigned equipment is serviceable;
32. describe basic wildland fire behavior;
33. recognize hazards and unsafe situations, promptly communicate hazard(s) and unsafe conditions to a supervisor, and take appropriate action;
34. construct a fireline that conforms to Cal Fire construction standards;
35. locate and abate burning materials and unburned fuels that threaten the fireline's integrity;
36. describe methods of reducing the threat of fire exposure to improved properties in order to protect them;
37. mop up a fire area, locating and extinguishing burning fuels that threatened escape;
38. patrol and maintain control of the fire area;
39. recognize the presence of hazardous materials and the indicators of a hazardous materials incident, correctly identify the materials involved, take personal protective actions, initiate the appropriate notification process, and secure the area;
40. protect persons, property, and the environment from further harm, initiate the appropriate communications process, and secure the area;
41. perform emergency decontamination procedures, use appropriate personal protective equipment based on hazard, protect exposures, avoid hazards, decontaminate victims and responders, and identify contaminated items and products of contamination or subsequent control;
42. perform basic control, containment, and confinement techniques to control hazardous materials release, and protect emergency responders from contamination;
43. control a flammable liquid fire with an extinguisher;
44. perform the 5” forward lay, hosepack attack, within 3 minutes 36 seconds;
45. perform the 2 1/2” forward lay, live line up the ladder evolution, within three minutes;
46. locate and apply hazardous materials data from the handbook;
47. conduct converging and outlying arrival residential fire attack multi-company scenarios;
48. conduct converging and outlying arrival apartment fire attack multi-company scenarios;
49. extinguish an interior, flashover structure fire with a hose line;

Measurable Objectives:  
Upon completion of this course, the student should be able to:
1. identify the Firefighter I certification track, test evaluation methods participation and capstone task book requirements;
2. describe the mission of the fire service and the role of the firefighter and the Standard Operating Procedures (SOP)’s rules and regulations used by fire departments;
3. demonstrate the ability to don, use and doff Personal Protective Equipment (PPE) and Self-Contained Breathing Apparatus (SCBA) in simulated emergency situations;
4. demonstrate the ability to inspect a SCBA and replace an SCBA air cylinder;
5. demonstrate the ability to respond and operate safely at an emergency scene following Established procedures and wearing proper PPE;
6. demonstrate the ability to receive a phone call using established procedures, relay the appropriate information and initiate a response to a reported emergency;
7. demonstrate the ability to transmit and receive messages relaying accurate information using fire department radios;
8. demonstrate the ability to tie a knot appropriate for hoisting tools securely as directed;
9. demonstrate the ability to illuminate an area of an emergency scene using electrical and lighting equipment according to the manufactures and agency guidelines;
10. demonstrate the ability to clean and maintain a wide variety of fire department tools and equipment;
11. demonstrate the correct selection of a fire extinguisher for a given fire and the proper techniques for extinguishing a Class A, B or C fire;
12. demonstrate the ability to conduct a forward hose lay as a member of a team;
13. demonstrate the ability to deploy a portable tank and prepare for drafting operations;
14. demonstrate the ability to load, deploy and advance attack and supply hose;
15. demonstrate the ability to clean and maintain hose, mark defective hose, build hose rolls, replace burst hose sections and extend lines;
16. demonstrate the ability to secure (turn-off) all building utilities safely;
17. demonstrate the ability to lift, carry and raise an extension ladder single person;
18. demonstrate the ability to use forcible entry tools and equipment to force the opening of a door, window or wall;
19. demonstrate the ability to conduct a search and rescue of a civilian or firefighter with or without respiratory protection;
20. demonstrate the ability to activate an emergency call for assistance and exit a hazardous area;
21. demonstrate the ability to locate the elevated location using a 24 foot ladder;
22. demonstrate the ability to conduct an interior fire attack as a member of a team, locating and controlling the fire;
23. demonstrate the ability to extinguish exterior fires in vehicles and in stacked and piled materials;
24. demonstrate the ability to operate a charged attack hose line from a ground ladder;
25. demonstrate the ability to deploy and operate a portable master stream;
26. demonstrate the ability to use horizontal and vertical ventilation techniques to ventilate a structure;
27. demonstrate the ability to correctly perform salvage operations in a room;
28. demonstrate the ability to remove water from the interior of a structure using correct salvage techniques;
29. demonstrate the ability to control the flow of water from a fire sprinkler system;
30. demonstrate the ability to overhaul a fire scene, extinguish hidden fires, and remove charred materials while protecting the area of origin;
31. demonstrate the ability to secure a fire scene by covering building openings;
32. demonstrate the ability to conduct a wildland personal protective equipment and shelter according to the manufacturers’ guidelines within 60 seconds;
33. demonstrate the ability to assume a safe position to perform a retardant drop;
34. demonstrate the ability to inspect, maintain and sharpen hand tools;
35. demonstrate the ability to assemble, use and maintain a backpack pump;
36. demonstrate the ability to ignite and extinguish road flares and fuses;
37. demonstrate the ability to assemble ignite, extinguish and disassemble a drip torch;
38. demonstrate the ability to use the Incident Response Pocket Guide (IRPG);
39. demonstrate the ability to conduct a two person, 500 foot progressive hose lay;
40. demonstrate the ability to construct a fire line using handtools;
41. demonstrate the ability to perform a mobile pumping operation;
42. demonstrate the ability to prepare and defend a structure in the Wildland Urban Interface (WUI);
43. demonstrate the ability to perform wet or dry mop-up operations;
44. demonstrate the ability to perform wildland patrol operations;
45. demonstrate the ability to identify hazardous materials and the correct PPE to be used by the responder;
46. demonstrate the ability to implement a planned response to a hazardous materials incident;
47. demonstrate the ability to perform control, containment and confinement operations to control a hazardous materials incident;
48. demonstrate the ability to perform emergency decontamination on an individual and large number of persons.

Course Content:

Content (Lecture):
1. Orientation and Administration
   A. Review of training facilities
   B. Review of course syllabus
      a. Objectives
      b. Requirements
      c. Methods of evaluation
      d. Participation requirements
2. Firefighter I certification test process
   A. Written test
   B. Skills test
3. Capstone taskbook process

Content (Laboratory):
1. Mission of the fire service
   A. Role of the firefighter
   B. Use of SOP's and rule and regulations used by fire departments
2. Use of PPE & SCBAs
   A. Donning and doffing PPE
   B. Donning and doffing SCBA's
   C. Inspecting a SCBA
   D. Replacing a SCBA air cylinder
3. Responding to and operating at an emergency scene
   A. Use of PPE
   B. Department SOPs
4. Receiving emergency phone calls
   A. Department procedures
   B. Relaying pertinent information
   C. Initiating a response
5. Radio use
   A. Transmitting messages
   B. Receiving messages
6. Knots
   A. Bowline
   B. Clove hitch
   C. Figure eight in a bight
   D. Half-hitch
   E. Becket/sheet bend
   F. Safety knots
7. Hoisting equipment
   A. Axes
   B. Pike poles
   C. Smoke ejectors
   D. Chain saws
   E. Hoselines
   F. Ground ladders
8. Scene lighting
   A. Use of generators
   B. Light assemblies
   C. Power cords
   D. Ground fault interrupters
9. Cleaning and maintain fire department tools and equipment
   A. Ladders
   B. Ventilation equipment
      a. Smoke ejectors
      b. Chain saws
   C. SCBA's
   D. Rope
   E. Salvage equipment
   F. Hand tools
      a. Axe
      b. Pike pole
      c. Halligan
10. Fire extinguisher use
    A. Correct selection for the type of fire
    B. Effective operating distance
    C. Proper application
11. Forward hose lay
12. Portable tank operations
    A. Deploying portable tanks
    B. Use of hard suction for drafting operations
13. Fire hose
    A. Use of attack lines
       a. Loading
       b. Deploying
       c. Advancing
    B. Loading supply hose
    C. Maintenance
       a. Cleaning hose
       b. Inspecting hose
Identifying defective hose
D. Building hose rolls
   a. Straight rolls
   b. Donut rolls
   c. Twin rolls
d. Self-locking donuts
E. Replacing burst hose
F. Extending hoselines

14. Controlling building utilities
   A. Securing electrical power
   B. Securing gas connections
   C. Securing water supplies

15. Deploying an extension ladder
   A. Lifting and carrying
   B. Footing and raising
   C. Checking for hazards and extending
   D. Adjusting climbing angle
   E. Lowering and stowing

16. Conducting forcible entry
   A. Selection of the point of entry
   B. Selection of the correct tool(s)
   C. Entering a window
   D. Entering a door
   E. Breaching a wall

17. Search and rescue
   A. Primary search and rescue of a victim with no respiratory protection
   B. Primary search and rescue of a firefighter with respiratory protection
   C. Lower a rescued victim down a ladder
   D. Making an emergency call and exiting a hazardous area

18. Fire attack operations
   A. Interior fire attack as a member of a team
   B. Exterior fire attack as a member of a team
   C. Operating an attack line from a ladder
   D. Fire attack on a vehicle fire
   E. Deploying and operating a portable master stream

19. Ventilation
   A. Horizontal ventilation
   B. Vertical ventilation

20. Salvage and Overhaul
   A. Salvage of a room and contents
   B. Water removal techniques from a structure
   C. Controlling the flow of water from a fire sprinkler
   D. Separation and removal of charred material while protecting the area of origin
   E. Covering Building openings
   F. Overhauling a fire scene

21. Wildland PPE, safety and tools
   A. Donning wildfire PPE
   B. Deploying a fire shelter using the lying down method
   C. Assuming a safe position for a retardant drop
   D. Inspecting, maintaining and sharpening hand tools
   E. Assembling, use and maintenance of backpack pumps
   F. Igniting and extinguishing road flares and fuses
   G. Assembling, igniting, extinguishing and disassembling a drip torch
   H. Using the IRPG.

22. Wildland suppression
   A. Conducting a two person, 500 foot progressive hose lay
   B. Constructing a fire line using hand tools
   C. Performing mobile pumping operations
   D. Prepare and defend a structure in the WUI
   E. Performing wet or dry mop-up operations
   F. Performing wildland patrol operations

23. Identifying and planning a hazardous materials response
   A. Identifying hazardous materials, their potential hazards and appropriate PPE
   B. Implementing a planned response to a hazardous materials incident

24. Performing hazardous materials control, containment and confinement activities

25. Hazardous materials decontamination activities
   A. Performing emergency decontamination
   B. Performing mass decontamination

Methods of Presentation
1. Lecture/Discussion
2. Demonstration/Exercise

Assignments and Methods of Evaluating Student Progress
1. Typical Assignments
   A. The instructor will facilitate classroom discussion on the firefighter capstone certification testing process and how the process works.
   B. The instructor will lecture on how to access and use a firefighter skill testing sheets on donning personal protective equipment from the State Fire Training web site. Students will each download the assigned skill sheet and demonstrate how to don personal protective equipment based on the steps indicated on the skill sheet.
   C. The instructor will demonstrate how to properly spot, raise and lower a 24’ extension ladder. The instructor will then supervise as students demonstrate how to raise and lower a 24’ extension ladder for a given scenario, i.e., raise ladder to a 2nd story window for a rescue.

2. Methods of Evaluating Student Progress
   A. Skills performance examination
   B. Final Examination

3. Student Learning Outcomes
   Upon the completion of this course, the student should be able to:
   A. Complete 5 required and 3 random Fire Fighter I certification examination skills according to the skills testing sheets designated by California State Fire Training.
   B. Complete 4 required and 2 random wildland certification examination skills according to the skills testing sheets designated by California State Fire Training.
by California State Fire Training.
C. Complete 1 required and 2 random hazardous materials certification examination skills according to the skills testing sheets designated by California State Fire Training.
D. Complete the Fire Fighter I Comprehensive Examination according to the certification training standards established by California State Fire Training.

Textbook (Typical):

Special Student Materials
1. Student will provide gloves and boots for structure and wildland PPE.
2. Nomex hood and bandana required for use with Chabot provided helmets.
3. Uniform t-shirt, pants and station boots required of student.

Abbreviated Class Schedule Description:
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