FIRE 0100 - FIREFIGHTER ACADEMY

Catalog Description

Prerequisite: Completion of FIRE 1 and HSCI 2 with grades of "C" or better, possession of a current Emergency Medical Technician certificate, and submission of a physician's physical verification, including a spirometry test
Corequisite: Concurrent enrollment in FIRE 100A
Advisory: Completion of FIRE 99 with grade of "C" or better
Hours: 580 (181 lecture, 399 laboratory)
Description: Designed for entry level firefighters. Approved by the California State Board of Fire Services and California State Fire Marshal's Office. Fulfills all educational and training requirements for Firefighter I and II. Leads to State and/or National Firefighter I certification and upon completion of experience requirement, certification of Firefighter II. Includes: Structural Firefighting, Wildland Firefighting, Hazardous Materials, Incident command system, Auto Extrication, and Firefighter Survival. Certificate of Completion issued with grade of "C" or better in both FIRE 100 and 100A. Physically demanding program. Materials fee required. (not transferable)

Course Student Learning Outcomes

- CSLO #1: Assess the role of a firefighter in fire department organizations; and then successfully integrate themselves into an appropriate role within the organization.
- CSLO #2: Explain basic fire chemistry and physics to extinguish different types of fires.
- CSLO #3: Assess safety and risk management techniques to all functions and aspects of firefighting, personal protective equipment, fire suppression equipment and building construction.
- CSLO #4: Apply and maintain firefighting equipment used by firefighters in the suppression of different types of fires, rescues and hazard mitigation.
- CSLO #5: Apply basic laboratory skills learned in a methodical, expedient, safe and strategic manner in real life simulations.

Effective Term

Fall 2019

Course Type

Credit - Degree-applicable

Contact Hours

580

Outside of Class Hours

362

Total Student Learning Hours

942

Course Objectives

Lecture Objectives: FF1A

Introduction:
1.Identify the different levels of certification in the Fire Fighter certification track
2.Identify the prerequisites for certification
3.Identify the course work required for certification
4.Identify the exams required for certification
5.Identify the task book requirements for certification
6.Identify the experience requirements for certification
7.Identify the position requirements for certification
8.Describe the certification task book process
9.Describe the certification examination process
10.Describe the organization of the fire department
11.Define the role of Fire Fighter 1 in the organization
12.Describe the mission of the fire service
13.Describe fire department standard operating procedures
14.Describe fire department rules and regulations as they apply to the Fire Fighter 1
15.Describe the value of fire and life safety initiatives in support of the fire department mission and to reduce fire fighter line-of-duty injuries and fatalities
16.Identify the role of other agencies as they relate to the fire department
17.Explain the principles and basic structure of the Incident Command System (ICS)
18.Describe the National Incident Management System (NIMS) management characteristics that are the foundation of the ICS
19.Describe the ICS functional areas and the roles of the Incident Commander and Command Staff
20.Describe the General Staff roles within ICS
21.Identify how NIMS management characteristics apply to ICS for a variety of roles and discipline areas
22.List common types of accidents and injuries and identify their causes
23.Describe how physical fitness and a healthy lifestyle correspond to fire fighter performance
24.Define the critical aspects of NFPA 1500: Standard on Fire Department Occupational Safety and Health Program (current edition)
25.Describe how fire and life safety initiatives support a fire department's mission to reduce fire fighter line-of-duty injuries and deaths
26.Explain the importance of standards for structural personal protective ensemble
27.Identify the components of structural PPE
28.Describe the protection provided by structural PPE
29.Describe the limitations of structural PPE
30.Identify manufacturer guidelines for correct PPE use
31.Identify when and how to doff PPE
32.Describe how improper usage or maintenance can compromise PPE effectiveness
33.Describe proper method for inspecting, cleaning, and maintaining structural PPE
34.Identify when and describe how to remove PPE from service
35.Outline how to Inspect, clean and maintain structural PPE
36.Define "IDLH"
37.Identify conditions requiring respiratory protection
38.Explain the importance of standards for SCBA
39.Describe the protection provided by, uses of, and limitations of SCBA
40.Describe potential long-term consequences of exposure to products of combustion
41.Identify the components of SCBA
42.Describe operational inspection procedures for SCBA
43.Describe different donning procedures
44.Identify manufacturer guidelines for correct SCBA use
45.Describe how improper fit, usage, or maintenance can compromise SCBA effectiveness

46.Identify when to doff respiratory protection
47.Identify how to doff respiratory protection
48.Identify proper methods for inspecting, cleaning, and maintaining SCBA
49.Identify when and describe how to remove SCBA from service
50.Describe different breathing techniques
51.Describe how to monitor and manage air consumption
52.Describe emergency indicators and emergency procedures for SCBA
53.Identify physical requirements of the SCBA wearer
54.Identify and troubleshoot problems associated with SCBA use
55.Identify the purpose and benefits of gross decontamination
56.Identify parts of the body most susceptible to contaminate exposure
57.Identify common routes of exposure
58.Describe how to conduct on-site gross decontamination
59.Describe how to doff SCBA and PPE to reduce exposure to field contaminants
60.Describe how to tag and transport contaminated SCBA and PPE
61.Identify personal decontamination processes
62.Describe mounting and dismounting procedures for riding an apparatus
63.Identify hazards and ways to avoid hazards associated with riding an apparatus
64.Describe prohibited practices
65.Identify different types of department PPE and their use(s)
66.Describe proper procedures for mounting and dismounting an apparatus in traffic
67.Identify potential hazards involved in operating on emergency scenes
68.Describe procedures for safe operation at emergency scenes
69.Identify the PPE available for members' safety on emergency scenes and work zone designations
70.Describe how to work with electrical hazards at an emergency scene
71.Operate in protected work areas as directed
72.Explain the procedures for reporting an emergency
73.Identify department SOPs for taking and receiving emergency information
74.List information needs of dispatch center
75.Identify different types of fire department communications equipment
76.Outline how to record and relay information
77.Identify components of a fire department radio
78.Describe fire department procedures and etiquette for using the radio
79.Identify basic types of fire department radios
80.Identify operations of fire department radios
81.Describe how to activate radio emergency distress button/signal
82.Identify the difference between routine and emergency radio traffic
83.Identify rope terminology
84.Identify rope types, differences, and uses
85.Describe how to use rope(s) to support response activities
86.Identify guidelines for cleaning, inspecting, and maintaining rope
87.Describe methods for cleaning ropes
88.Identify when and how to remove rope from service
89.Describe types of knots to use for different ropes and webbing
90.Describe types of knots to use for different situations
91.Identify knot types and uses
92.Describe hoisting methods for tools and equipment
93.Identify types of knots used to hoist tools
94.Identify basic construction tools and equipment (hammers, saws, pliers, etc.)
95.Identify basic mechanic tools and equipment (screwdrivers, wrenches, socket sets, etc.)
96.Describe types and uses of hand tools
97.Describe types and uses of power tools
98.Identify safety considerations for storing and transporting hand and power tools
99.Identify guidelines for cleaning, inspecting, and maintaining hand and power tools
100.Describe methods for cleaning hand and power tools
101.Identify when and how to remove hand and power tools from service
102.Describe safety principles and practices for portable electrical equipment
103.Identify power supply capacity and limitations
104.Describe light deployment methods
105.Describe common construction types
106.Describe basic construction of typical doors, windows, walls, floors, and roofs within the department's community or service area
107.Describe common building materials
108.Identify the effects of each construction type and elapsed time under fire conditions on structural integrity
109.Identify dangerous building conditions created by fire
110.List physical states of matter in which fuels are found
111.Describe the stages of fire
112.Describe the classifications of fire
113.Describe the methods of heat transfer
114.Describe the relationship of oxygen concentration to life safety and fire growth
115.Describe fire behavior in a structure
116.Describe the principles of thermal layering within a structure fire
117.List the products of combustion found in a structure fire
118.Identify the signs, causes, effects, and prevention of backdraft/ smoke explosion
119.Identify the signs, causes, effects, and prevention of flashover
120.Identify types of fire extinguishers
121.Identify rating systems for different types of fire extinguishers
122.Identify risks associated with different types of fire extinguishers
123.Describe the operating methods and limitations of portable extinguishers
124.Select an appropriate extinguisher based on the size and type of fire
125.Describe types of water supply systems
126.Describe components of municipal and rural water systems
127.Describe loading and off-loading procedures for a mobile water supply apparatus
128.Describe fire hydrant operations
129.Identify suitable static water supply sources
130.Describe procedures and protocols for connecting to various water sources
131.Describe fire hoses
132.Describe departmental procedures for inspecting a hose according to manufacturer guidelines, noting any defects, and removing it from service
133.Describe nozzles
134.Identify fittings, tools, and appliances
135.Describe how to apply each size and type of attack line
136.Describe cleaning and maintenance methods
137.Describe types of hose rolls
138.Describe types of hose loads
139.Outline how to mark defective hose
140.Identify the principles of fire streams
141.Describe types of supply line hose deployments (carries and drags)
142.Describe types of attack line hose deployments (carries and drags)
143.Identify precautions to be followed when advancing hose lines to the objective
144.Describe observable results that a fire stream has been properly applied
145.Prevent water hammer when shutting down nozzles

146.Describe properties and principles of and safety concerns for electrical systems
147.Describe properties and principles of and safety concerns for gas systems
148.Describe properties and principles of and safety concerns for water systems
149.Identify utility disconnect methods
150.Identify dangers associated with different utility disconnect methods
151.Describe how to use required safety equipment
152.Identify utility control devices
153.Assess for related hazards
154.Identify types of fire service ladders
155.Describe ladders
156.Identify the uses of ladders
157.Identify guidelines for cleaning, inspecting, and maintaining ladders
158.Describe methods for cleaning ladders
159.Identify when and how to remove ladders from service
160.Identify types of lifts and carries
161.Identify types of raises
162.Describe methods used to secure ground ladders
163.Describe safety limits to the degree of angulation
164.Identify different angles for various tasks
165.Describe the hazards associated with setting up ladders
166.Define what constitutes a stable foundation for ladder placement
167.Describe what constitutes a reliable structural component for top placement
168.Describe proper climbing techniques
169.Describe how to operate from ground ladders
170.Describe basic construction of typical doors, windows, and walls within the department's community or service area
171.Describe types and uses of hand and power tools used in forcible entry
172.Describe operation of doors, windows, and locks
173.Identify the dangers associated with forcing entry through doors, windows, and walls
174.Define primary and secondary search techniques
175.Describe how to use tools, and equipment for search and rescue operations
176.Identify team members' roles and goals in search and rescue operations within a structure
177.Identify considerations related to respiratory protection
178.Describe methods to determine if an area is tenable
179.Describe methods and indicators used to locate victims
180.Identify psychological effects of operating in obscured conditions and ways to manage them
181.Describe victim removal methods (including various lifts, carries, and drags)
182.Assess areas to determine tenability
183.Identify precautions to be followed when advancing hose lines to a fire
184.Identify principles of exposure protection
185.Describe attack and control techniques for below, at, and above grade level fires
186.Identify methods for locating and exposing hidden fires
187.List common types of accidents or injuries and their causes
188.Describe observable results that a fire stream has been properly applied
189.Define the role of the backup team in fire attack situations
190.Describe horizontal ventilation
191.Describe how to ventilate a structure using different ventilation methods
192.Describe safety considerations when venting a structure
193.Describe the importance of communication and coordination between fire attack and ventilation teams
194.Identify guidelines for cleaning, inspecting, and maintaining horizontal ventilation tools
195.Describe methods for cleaning horizontal ventilation tools
196.Identify when and how to remove horizontal ventilation tools from service
197.Describe vertical (top-side) ventilation
198.Describe how to ventilate a structure using different ventilation methods
199.List the techniques and safety precautions for venting flat roofs, pitched roofs, and basements
200.Identify the effects of construction type and elapsed time under fire conditions on structural integrity
201.Describe basic indicators of potential collapse or roof failure
202.Describe the importance of communication and coordination between fire attack and ventilation teams
203.Identify guidelines for cleaning, inspecting, and maintaining vertical ventilation tools
204.Describe methods for cleaning vertical ventilation tools
205.Identify when and how to remove vertical ventilation tools from service
206.Describe the purpose of property conservation and its value to the public
207.Identify salvage tools and equipment
208.Identify guidelines for cleaning, inspecting, and maintaining salvage tools and equipment
209.Describe methods for cleaning salvage tools and equipment
210.Identify when and how to remove salvage tools and equipment from service
211.Describe methods used to protect property
212.List types of and uses for salvage covers
213.Describe operations at properties protected with automatic sprinklers
214.Describe how to stop the flow of water from an automatic sprinkler head
215.Identify the main control valve on an automatic sprinkler system
216.Describe procedures for protecting possible areas of origin and potential evidence
217.Describe forcible entry issues related to salvage
218.Describe the purposes and methods of overhaul
219.Describe the types of fire attack lines and water application devices most effective for overhaul
220.Describe water application methods for extinguishment that limit water damage
221.Identify types of tools and methods used to expose hidden fire
222.Describe hazard mitigation associated with overhaul
223.Identify reasons for protecting a fire scene
224.Describe obvious signs of arson, area of origin, or cause
225.List techniques for the preservation of fire cause evidence
226.Describe recommendations for developing a fire fighter survival attitude
227.Describe how to recognize and evaluate a potentially hazardous situation
228.Describe how to prevent, recognize, call, and deal with a fire fighter emergency
229.Describe how to resolve obstacles and SCBA emergencies faced during a fire fighter survival emergency
230.Describe types of exterior fires
231.Describe the types of attack lines and water streams appropriate for attacking stacked or piled materials and outdoor fires

232.Identify water application methods for exposure protection and fire extinguishment
233.Describe hazards associated with stacked and piled materials
234.Describe hazards associated with storage building and container fires
235.Describe various extinguishing agents and their effect on different material configurations
236.Identify tools and methods used in breaking up various types of materials
237.Describe the difficulties related to complete extinguishment of stacked and piled materials
238.Identify obvious signs of origin and cause
239.List techniques for the preservation of fire cause evidence
240.Describe hazardous conditions created during a passenger vehicle fire
241.Identify passenger vehicle fuel types
242.Identify alternative fuels and their associated hazards
243.Identify precautions to be followed when advancing hose lines toward a passenger vehicle
244.Describe principles of fire streams as they relate to fighting passenger vehicle fires
245.List observable results that a fire stream has been properly applied
246.Describe common types of accidents or injuries related to fighting passenger vehicle fires and how to avoid them
247.Describe how to access locked passenger, trunk, and engine compartments
248.Identify methods for overhauling a passenger vehicle
249.Describe types of ground cover fires
250.Describe parts of ground cover fires
251.Describe methods to contain or suppress
252.Describe safety principles and practices
253.Determine exposure threats based on fire spread potential
254.Outline how to Protect exposures
255.Define types of stress
256.Describe the signs and symptoms of and reactions to stress
257.List common stressors found in various situations and environments:
258.Describe the physiological and emotional impacts of stress
259.Describe behaviors associated with unmanaged stress
260.Outline the self-assessment process
261.Describe the role of nutrition, sleep, exercise, relaxation techniques, and rest in mediating and mitigating stress
262.Explain relaxation techniques
263.Describe healthy and unhealthy coping mechanisms
264.Identify potential consequences of unhealthy coping mechanisms
265.Describe the role of communication in coping with stress
266.Describe resources available in the AHJ, such as:
267.Describe external resources, such as:
268.Describe cancer prevalence in the fire service
269.Define carcinogenic agent • Occupational
270.List risk factors specific to the fire service
271.List risk or protective factors specific to lifestyle or personal life
272.List sources of exposure
273.List common states of carcinogenic chemicals
274.List common categories of carcinogenic chemicals
275.List routes of exposure
276.List common sources of exposure found in various situations and environments
277.Identify unmodifiable factors
278.Identify modifiable factors
279.Define exclusion (hot) zones, contamination reduction (warm) zones, and support (cold) zones on a fireground
280.Identify and demonstrate the best practices for minimizing contaminant exposure and risk during fire suppression, overhaul, mop-up, and postincident activities
281.Identify and demonstrate the best practices for PPE that minimize contaminant exposure and risk
282.Identify and demonstrate the best practices for equipment that minimize contaminant exposure and risk
283.Identify and demonstrate the best practices that minimize contaminant exposure and risk at the station
284.Identify and demonstrate the best practices that minimize contaminant exposure and risk at home
285.Outline the Fire Service Application Process
286.Describe the typical Fire Service interview
287.Identify the Qualities, traits, values of leadership.
288.Examine the value of good ethical behavior within the fire service.
Laboratory Outcomes: FF1A
1.Don structural PPE
2.Doff structural PPE
3.Demonstrate controlled breathing techniques
4.Replace SCBA air cylinders
5.Use an SCBA to exit through restricted passages
6.Initiate and complete emergency procedures in the event of SCBA failure or air depletion
7.Demonstrate how to return PPE to a ready state
8.Perform operational inspection for a self-contained breathing apparatus
9.Monitor and manage air consumption
10.Locate information in departmental documents and standard or code materials
11.Deploy traffic and scene control devices
12.Dismount an apparatus
13.Operate fire department communications equipment
14.Operate fire department radios and equipment
15.Tie knots various fire service knots
16.Hoist tools using specific knots based on the type of tool
17.Transport, operate, and maintain hand and power tools
18.Operate department power supply and lighting equipment
19.Deploy cords and connectors
20.Reset ground-fault interrupter (GFI) devices
21.Safely carry portable fire extinguishers
22.Approach fire with portable fire extinguishers
23.Operate portable fire extinguishers
24.Clean different types of hose
25.Operate hose washing and drying equipment
26.Document all exposures, injuries, and illnesses within AHJ reporting system
27.Replace coupling gaskets
28.Open, close, and adjust nozzle flow and patterns
29.Couple and uncouple various hose line connections
30.Roll hose
31.Carry hose
32.Reload hose
33.Replace burst hose sections
34.Hand lay a supply hose
35.Connect and place hard suction hose for drafting operations
36.Deploy portable water tanks and the equipment necessary to transfer between and draft from them
37.Make hydrant-to-engine hose connections for forward and reverse lays
38.Connect a supply hose to a hydrant
39.Fully open hydrant when hose is connected
40.Fully close hydrant when operation ends
41.Operate utility control valves or switches
42.Lift and carry ladders

43.Move and place ladder to avoid obvious hazards
44.Raise and extend ladders and lock flies
45.Secure ground ladders
46.Demonstrate proper climbing techniques
47.Operate from ground ladders
48.Demonstrate leg lock method
49.Mount, ascend, dismount, and descend ladders
50.Transport and operate hand and power tools used in forcible entry
51.Force entry through doors, locks, windows, and walls using assorted methods and tools
52.Demonstrate a primary and secondary search
53.Demonstrate victim removal methods
54.Set up and use different types of ladders for various types of rescue operations
55.Remove the victim down a ladder
56.Rescue a fire fighter with functioning respiratory protection
57.Rescue a fire fighter whose respiratory protection is not functioning
58.Rescue a person who has no respiratory protection
59.Use SCBA to exit through restricted passages
60.Apply water using direct, indirect, and combination attacks
61.Advance charged and uncharged hand lines of 1½-inch diameter or larger up ladders and up and down interior and exterior stairways
62.Operate charged hand lines of 1½-inch diameter or larger while secured to a ground ladder
63.Demonstrate how to attack fires below grade, at grade, and above grade
64.Locate and suppress interior wall and subfloor fires
65.Transport and operate ventilation tools and equipment and ladders
66.Use safe procedures for breaking window and door glass and removing obstructions
67.Horizontally ventilate a structure
68.Transport and operate ventilation tools and equipment and ladders
69.Select, carry, deploy, and secure ground ladders for ventilation activities
70.Determine that a wall and roof will support the ladder
71.Judge extension ladder height requirements
72.Deploy roof ladders on pitched roofs while secured to a ground ladder for vertical ventilation
73.Carry ventilation-related tools and equipment while ascending and descending ladders
74.Hoist ventilation tools to a roof
75.Sound the surface for integrity
76.Cut roofing or flooring materials to vent flat roofs, pitched roofs, or basements
77.Clear an opening with hand tools
78.Retreat from the area when ventilation is accomplished
79.Cluster furniture
80.Deploy covering materials
81.Roll and fold salvage covers for reuse
82.Construct water chutes and catch-alls
83.Remove water
84.Cover building openings, including doors, windows, floor openings, and roof openings
85.Stop the flow of water from a sprinkler with sprinkler wedges or stoppers
86.Operate a main control valve on an automatic sprinkler systems
87.Deploy and operate an attack line for overhaul
88.Apply water for maximum effectiveness
89.Expose and extinguish hidden fires in walls, ceilings, and subfloor spaces
90.Remove floor, ceiling, and wall components to expose void spaces without compromising structural integrity
91.Recognize and preserve obvious signs of arson, area of origin, and cause
92.Separate, remove, and relocate charred material to a safe location while protecting the area of origin for cause determination
93.Evaluate for complete extinguishment
94.Demonstrate how to overcome a variety of obstacles and SCBA emergencies faced during a fire fighter survival emergency.
95.Operate hose lines and other water application devices
96.Operate handlines or master streams
97.Break up material using hand tools and water streams
98.Evaluate and modify water application for maximum penetration
99.Search for and expose hidden fires
100.Assess patterns for origin determination
101.Evaluate for extension
102.Evaluate for complete extinguishment
103.Assess and control fuel leaks
104.Open, close, and adjust the flow and pattern on nozzles
105.Advance 1½-inch or larger diameter attack lines on a passenger vehicle fire
106.Apply water for maximum effectiveness while maintaining flash fire protection
107.Expose hidden fires by opening all passenger vehicle compartments
108.Construct a fire line or extinguish with hand tools
109.Maintain integrity of established fire lines
110.Suppress ground cover fires using water
111.Document all exposures, injuries, and illnesses within AHJ reporting system
112.
Demonstrate Interview techniques
Lecture Objectives: FF1B
1.Identify the role of awareness personnel at a hazardous materials/WMD incident per CCR Title 8, §5192(q)(6)(A), First Responder, Awareness Level (FRA):
2.Identify the location and contents of the AHJ emergency response plan
3.Describe standard operating procedures for awareness personnel
4.Describe how to recognize hazardous materials and WMD
5.List basic hazards associated with classes and divisions
6.Identify indicators to the presence of hazardous materials including:
7.Describe how to access information from the Emergency Response Guidebook (ERG) (current edition) using name of the material, UN/NA identification number, placard applied, or container identification charts
8.List types of hazard information available from:
9.Recognize indicators to the presence of hazardous materials/WMD
10.Identify hazardous materials/WMD by name, UN/NA identification number, placard applied, or container identification charts
11.Describe how to use the ERG, SDS, shipping papers with emergency response information, and other approved reference sources to identify precautions to be taken to protect responders and the public
12.Describe policies and procedures for isolating the hazard area and denying entry
13.Identify the purpose of and methods for isolating the hazard area and denying entry
14.Recognize precautions for protecting responders and the public
15.Identify isolation areas
16.Outline Deny entry
17.Describe how to avoid or minimize hazards
18.Identify policies and procedures for notification, reporting, and communications
19.Identify six general information items needed for mandatory notifications
20.List types of approved communications equipment
21.Describe how to operate equipment

22.Identify the role of operations level responders at a hazardous materials/WMD incident per CCR Title 8, §5192(q)(6)(B), First Responder, Operations Level (FRO)
23.Identify the location and contents of AHJ emergency response plan and standard operating procedures for operations level responders, including those response operations for hazardous materials/WMD incidents
24.Define hazard classes and divisions
25.Identify types of containers
26.Identify container identification markings, including piping and pipeline markings and contacting information
27.Identify types of information to collect during the hazardous materials/WMD incident survey
28.Identify the availability and location of transportation shipping papers and safety data sheets (SDS) at facilities
29.Describe types of hazard information available from and how to contact:
30.Describe how to communicate with carrier representatives to reduce impact of a release
31.Identify basic physical and chemical properties, including:
32.Identify the behavior and hazards of a material and its container based on the material's physical and chemical properties and the surrounding conditions
33.List examples of potential criminal and terrorist targets
34.Identify indicators of possible criminal or terrorist activity for each of the following:
35.Describe additional hazards associated with terrorist or criminal activities, such as secondary devices
36.Determine the likely harm and outcomes associated with the identified behavior and the surrounding conditions
37.Describe types of PPE and the hazards for which they are used
38.Describe policies and procedures for PPE selection and use
39.Describe the importance of working under the guidance of a hazardous materials technician, an allied professional, an emergency response plan, or standard operating procedures when selecting and using PPE
40.Identify the capabilities and limitations of and specialized donning, doffing, and usage procedures for approved PPE
41.Describe procedures for approved PPE
42.Describe procedures for reporting and documenting the use of PPE
43.Describe how to clean, disinfect, and inspect tools, equipment, and PPE
44.Define contamination, cross contamination, and exposure
45.Describe contamination types
46.List routes of exposure
47.Identify types of decontamination
48.Describe the purpose, advantages, and limitations of emergency decontamination
49.Describe policies and procedures for performing emergency decontamination
50.Identify approved tools and equipment for emergency decontamination
51.Describe hazard avoidance for emergency decontamination
52.Select an emergency decontamination method
53.Identify policies and procedures for hazardous materials/WMD incident operations
54.List the basic components of an incident action plan (IAP)
55.Describe modes of operation
56.Describe types of response objectives
57.Describe types of action options
58.Identify types of response information available from:
59.Describe safety procedures
60.Describe risk analysis concepts
61.Identify the purpose, advantages, limitations, and uses of approved PPE to determine if PPE is suitable for the incident conditions
62.Explain the difference between exposure and contamination
63.Identify contamination types including sources and hazards of carcinogens at incident scenes
64.Identify response objectives and action options based on the scope of the problem and available resources
65.Identify emergency decontamination needs based on the scope of the problem
66.Describe scene control procedures
67.Explain the differences between these control zones:
68.Describe procedures for protective actions, including evacuation and sheltering-in-place
69.Describe procedures for ensuring coordinated communications between responders and to the public
70.List evidence recognition and preservation procedures
71.Identify incident command system factors at hazardous materials/ WMD incidents
72.Describe how to recognize signs and symptoms of thermal stress
73.Identify safety precautions when working at hazardous materials/ WMD incidents
74.Identify the need for gross decontamination in the field based on the task(s) performed and contamination received, including sources and hazards of carcinogens at incident scenes
75.Establish and maintaining scene control
76.Recognize and preserve evidence
77.Describe the importance of working under the guidance of a hazardous materials technician, an allied professional, an emergency response plan, or standard operating procedures
78.Define offensive control, confinement, containment, and extinguishment techniques
79.Define nonintervention control, confinement, containment, and extinguishment techniques
80.Describe policies and procedures for product control
81.Identify product control methods for controlling a release with limited risk of personal exposure
82.Describe safety precautions associated with each product control method
83.Identify the location and describe how to operate remote/emergency shutoff devices in cargo tanks and intermodal tanks in transportation and containers at facilities that contain flammable liquids and flammable gases
84.List characteristics and applicability of approved product control agents
85.Describe how to use approved tools and equipment
86.Identify requirements for reporting and documenting product control operations
87.List components of progress reports
88.Describe policies and procedures for evaluating and reporting progress
89.Describe how to use approved communication tools and equipment
90.Identify signs indicating improving, static, or deteriorating conditions based on IAP objectives
91.Describe how to recognize circumstances under which it would be prudent to withdraw from a hazardous materials/ WMD incident
92.Determine incident status
93.Determine whether the response objectives are being accomplished
94.Use approved communications tools and equipment
95.Communicate the status of assigned tasks
Laboratory Objectives: FF1B

1.Use the ERG, SDS, shipping papers with emergency response information, and other approved reference sources to identify hazardous materials/WMD and their potential fire, explosion, and health hazards
2.Operate approved communications equipment and Communicate in accordance with policies and procedures
3.Inspect, maintain, store, don, work in, and doff PPE
4.Go through decontamination (emergency and technical) while wearing the PPE
5.Report and document the use of PPE
6.Set up emergency decontamination in a safe area
7.Select PPE for the assignment
8.Use PPE in the proper manner
9.Implement emergency decontamination
10.Prevent spread of contamination
11.Avoid hazards during emergency decontamination
12.Inspect, don, work in, go through decontamination while wearing, and doff approved PPE
13.Isolate contaminated tools, equipment, and PPE
14.Conduct gross decontamination of contaminated personnel, tools, equipment, and PPE in the field
15.Clean, disinfect, and inspect approved tools, equipment, and PPE
16.Select and use PPE
17.Select and perform product control techniques to confine/contain the release with limited risk of personal exposure
18.Use approved control agents and equipment on a release involving hazardous materials/WMD
19.Use remote control valves and emergency shutoff devices on cargo tanks and intermodal tanks in transportation and containers at fixed facilities
20.Perform product control techniques
21.Collect hazard information
22.Communicate with pipeline operators or carrier representatives
Lecture Objectives: FF1C
1.Describe types of wildland fires
2.Describe the fire fighter's role within the local incident management system
3.Describe basic safety roles and responsibilities of the wildland fire fighter
4.Describe basic wildland fire behavior
5.Identify wildland fire suppression techniques and tactics
6.Describe basic wildland fire behavior
7.Identify the three sides of the fire triangle
8.Identify environmental factors that affect the start and spread of wildland fire
9.Describe contributing factors that indicate potential for increased fire behavior that may compromise safety
10.Describe basic wildland fire safety
•10 Standard Fire Orders
•18 Watch-out Situations
•LCES
•Common Denominators of Fire Behavior on Tragedy Fires
•Downhill line construction
•Avoiding fire entrapment
•Using a vehicle or a structure as refuge
11.Describe hazards associated with working around aircraft
12.Describe hazards associated with working around heavy equipment
13.Identify human performance factors in high-risk work environments
14.Describe basic verbal communications
15.Identify common barriers to good listening
16.Identify basic communication responsibilities
17.Identify the components of wildland PPE
18.Explain the importance of standards for wildland PPE
19.Describe the protection provided by and limitations of wildland PPE
20.Describe fireline safety and use of PPE
21.Identify manufacturer guidelines for correct PPE use
22.Identify when it is safe to doff wildland PPE
23.Identify AHJ policies and procedures for doffing wildland PPE
24.Describe how to inspect wildland PPE
25.Describe how to recognize when PPE should be removed from service
26.Describe proper cleaning procedures for wildland PPE
27.Describe how to maintain wildland PPE
28.Describe AHJ policy on fire shelter use
29.Describe the protection provided by and limitations of fire shelters
30.Describe how to inspect and evaluate a fire shelter
31.Describe how to select and prepare a shelter deployment site
32.Describe AHJ policy of fire shelter use
33.Identify items to take into and leave outside a fire shelter
34.Describe methods for deploying a fire shelter
•Standing-to-sitting method
•Standing drop-down method
•Lying down method
35.Identify when to deploy and exit a fire shelter during an incident
36.Identify wildland fire fighting tools and equipment
37.Describe how to use wildland fire fighting tools and equipment
38.Describe how to inspect tools and equipment
39.Describe how to maintain and care for tools and equipment
40.Describe how to recognize when tools and equipment should be removed from service
41.Identify personnel and equipment requirements for response
42.Identify AHJ time standards
43.Identify special transportation considerations
44.Describe operational procedures for various response modes
45.Describe AHJ safety response guidelines
46.Describe basic wildland suppression strategy
47.Identify basic wildland suppression tactics
48.Describe the principles, techniques, and standards of fireline construction
49.Describe how to construct a handline
50.Describe how to perform mobile attack
51.Describe how to perform a simple hose lay
52.Describe how to perform a progressive hose lay
53.Describe how to retrieve hose
54.Describe fireline improvement techniques
55.Describe safety considerations
56.Describe how to use basic ignition devices
57.Describe wildland fire behavior within the wildland/urban interface
58.Describe how to reduce fuel for structure defense
59.Identify structure defense tactical actions
60.Identify structure triage categories
61.Identify the difference between a safety zone and a temporary refuge area (TRA)
62.Identify equipment and personnel capabilities within the wildland/urban interface
63.Describe principles, techniques, and standards for mop up
64.Describe the principles, techniques, and standards of patrol
65.Identify hazards associated with mop-up operations
•Human hazards
•Environmental hazards
Laboratory Objectives: FF1C
1.Assume safe position for an air tanker drop
2.Use fireline flagging
3.Use the Incident Response Pocket Guide (IRPG)
4.Assume safe position for an air tanker drop
5.Use the Incident Response Pocket Guide (IRPG)

6.Don wildland PPE
7.Doff wildland PPE
8.Return PPE to a ready state
9.Deploy a fire shelter within 30 seconds
10.Perform required maintenance techniques
11.Sharpen assigned suppression equipment
12.Perform other maintenance techniques for assigned suppression equipment
13.Use required maintenance equipment
14.Use wildland tools correctly
•Fusees
•Drip torches
•Back pumps
•Round point shovel
•Pulaski
•Mcleod
•Brush hook
•Single and double bit axe
•Wire broom
•Rhino tool
•Combi tool
•Power equipment
oChain saw
oPump
oPole saw
15.Construct a handline
16.Perform mobile attack
17.Perform a simple hose lay
18.Perform progressive hose lay
19.Retrieve hose
20.Apply fire streams
21.Apply extinguishing agents
22.Use basic ignition devices
23.Prepare a structure for structure defense
24.Conduct structure defense within the wildland/urban interface
25.Use basic tools to perform mop-up operations
26.Use basic techniques to perform mop-up operations
27.Assemble and operate a back pump
Lecture Objectives: FF2A
1.Identify the different levels of certification in the Fire Fighter certification track
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
10.Describe the responsibilities of the Fire Fighter 2 in assuming and transferring command within an incident command system (ICS)
11.Describe how to perform assigned duties in conformance with applicable NFPA standards, other safety regulations, and AHJ procedures
12.Identify the role of a Fire Fighter 2 within the organization
13.Determine the need for command
14.Organize and coordinate an incident command system until command is transferred
15.Function within an assigned role in an incident management system
16.Identify content requirements for basic incident reports
17.Identify the purpose and usefulness of accurate reports
18.Identify consequences of inaccurate reports
19.Describe how to obtain necessary report information
20.Identify required coding procedures
21.Determine necessary codes
22.Outline how to proof reports
23.Demonstrate fire department computers or other equipment necessary to complete reports
24.Describe standard operating procedures (SOPs) for alarm assignments
25.Describe fire department radio communication procedures
26.Describe how foam prevents or controls a hazard
27.List principles by which foam is generated
28.Identify causes of and corrective measures for poor foam generation
29.Describe the difference between hydrocarbon and polar solvent fuels and the concentrates that work on each
30.Identify the characteristics, uses, and limitations of fire-fighting foams
31.Describe the advantages and disadvantages of using fog nozzles versus foam nozzles for foam application
32.Describe foam stream application techniques
33.List hazards associated with foam usage
34.Describe methods to reduce or avoid hazards
35.Identify characteristics of pressurized flammable gases
36.List elements of a gas cylinder
37.Describe effects of heat and pressure on closed cylinders
38.Describe boiling liquid expanding vapor explosion (BLEVE) signs and effects
39.Describe methods for identifying contents
40.Describe how to identify safe havens before approaching flammable gas cylinder fires
41.Describe water stream usage and demands for pressurized cylinder fires
42.Describe what to do if the fire is prematurely extinguished
43.Identify valve types and their operation
44.Describe alternative actions related to various hazards and when to retreat
45.Describe how to select the nozzle and hose for fire attack
46.Describe how to select adapters and appliances to be used for specific fireground situations
47.Identify dangerous building conditions created by fire and fire suppression activities
48.Describe indicators of building collapse
49.List indicators of structural instability
50.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
51.Describe coordinated search and rescue and ventilation procedures
52.Describe suppression approaches and practices for various types of structural fires
53.Describe the association between specific tools and special forcible entry needs
54.Choose attack techniques for various levels of a fire (e.g., attic, grade level, upper levels, or basement)
55.Incorporate search and rescue procedures and ventilation procedures in the completion of the attack team efforts
56.Determine developing hazardous building or fire conditions
57.Identify methods to assess fire origin and cause
58.List types of evidence
59.Describe means to protect various types of evidence
60.Identify the role and relationship a Fire Fighter 2 during fire investigations with Criminal investigators and Insurance investigators
61.Describe the effects and problems associated with removing property or evidence from the scene
62.Describe how to protect the evidence
63.Describe the fire department's role at a vehicle accident

64.Describe points of strength and weakness in auto body construction
65.Describe dangers associated with vehicle components and systems
66.Describe the uses and limitations of hand and power extrication equipment
67.Describe safety procedures when using various types of extrication equipment
68.Identify types of rescue operations
69.Describe the fire fighter's role at technical rescue operations
70Identify hazards associated with technical rescue operations
71.Describe types and uses of rescue tools
72.Identify rescue practices and goals
73.Identify and retrieve various types of rescue tools
74.Describe AHJ policy and procedures
75.List common causes of fire and their prevention
76.Describe the importance of a fire safety survey and public fire education programs to fire department public relations and the community
77.Identify referral procedures utilized by the AHJ
78.Describe parts of Fire Safety informational materials and how to use them
79.Identify basic presentation skills
80.Describe departmental standard operating procedures for giving fire station tours
81.Describe how to complete a "public contact report"
82.Describe AHJ requirements for a preincident survey and documentation
83.Describe how fire involvement impacts strategy and tactics
84.Identify water supply sources for fire protection
85.Identify basic components of fire suppression and detection systems
86.Identify common symbols used to diagram:
87.Identify the importance of accurate diagrams
88.Identify types of cleaning methods for power tools and equipment
89.Describe correct use of cleaning solvents
90.Describe manufacturer and AHJ guidelines for maintaining equipment and its documentation
91.Identify problem-reporting practices
92.Complete recording and reporting procedures
93.Describe procedures for safely conducting hose service testing
94.Identify indicators that dictate when hose should be removed from service
95.Describe AHJ procedures for documenting hose test results
Laboratory Objectives: FF2A
1.Demonstrate proper operation of fire department communications equipment
2.Prepare a foam concentrate (or suitable substitute) for use
3.Assemble foam stream components
4.Master various foam application techniques
5.Approach and retreat from spills as part of a coordinated team.
6.Execute effective advances and retreats
7.Apply various techniques for water application
8.Assess cylinder integrity and changing cylinder conditions
9.Operate control valves
10.Choose effective procedures when conditions change
11.Operate hand and power tools used for forcible entry and rescue as designed
12.Use cribbing and shoring material
13.Use stabilization tools and equipment
14.Choose and apply appropriate techniques for moving or removing vehicle roofs, doors, seats, windshields, windows, steering wheels or columns, and the dashboard
15.Sketch the site, buildings, and special features
16.Operate power plants, power tools, and lighting equipment
17.Operate hose testing equipment and nozzles and record results
18.Assemble a team
19.Evaluate and forecast a fire's growth and development
20.Select tools for forcible entry
21.Locate the fire's origin area
22.Outline how to recognize possible fire causes
23.Establish public barriers
24.Assist rescue teams as a member of the team when assigned
25.Complete forms
26.Recognize hazards
27.Match findings to preapproved recommendations
28.Effectively communicate findings to occupants or referrals
29.Document presentations
30.Use prepared materials
31.Detect hazards and special considerations to include in the preincident sketch
32.Complete all related AHJ documentation
33.Select correct tools
34.Follow guidelines

General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

Articulation Information

- Not Transferable

Methods of Evaluation

- Classroom Discussions
  - Example: Classroom discussions are used to evaluate students' ability to verbally analyze fire ground safety problems. Students must demonstrate the ability to use correct vocabulary and terminology in relation to a given scenario. Pass/fail grading. Example topics include: Offensive and defensive attacks, ventilation modes, forward and reverse lays.
- Essay Examinations
  - Example: Essay examinations related to lecture topics. For Example: students will describe how fire affects the four basic building materials in use today. Essay will be evaluated based upon accuracy and development of description. Rubric Grading.
- Objective Examinations
  - Example: Students will be given a multiple choice test on vertical ventilation. The test will be evaluated using a standard grading system. Example Question: Venting a fire on the roof by cutting a hole through the covering to allow heat and smoke to escape is an example of: A. Horizontal Ventilation, B. Vertical Ventilation, C. Force Air Ventilation, D. None of the above.
- Problem Solving Examinations
  - Example: Following a lecture on ventilating a single story residential structure, students will be given multiple fire scenarios and must determine the proper type of ventilation for each. Grading will be pass/fail according to industry standards.
- Projects
  - Example: Following the lecture on firefighter fatalities, students will work in groups and prepare a power-point presentation outlining the circumstances surrounding an assigned firefighter

fatality and present to class. Grading will be based on a rubric provided to the students.

- Reports
  - Example: In a report define and provide an example of "stratification" as it applies to structural firefighting. Reports will be evaluated using a rubric developed by the instructor and shared with students.
- Skill Demonstrations
  - Example: Following a lecture and instructor demonstration, students will demonstrate how to properly deploy a 1-3/4" hose line for fire attack. Grading is pass/fail according to industry standards.

Repeatable

No

Methods of Instruction

- Laboratory
- Lecture/Discussion
- Distance Learning

Lab:

1. The instructor will lecture on care and maintenance of ropes and demonstrate how to tie knots and hitches used in the fire service. Students will then practice tying the knots and hitches demonstrated.
2. Following a lecture on ladder placement for rescuing a victim from a 2nd story window, students will demonstrate proper placement of ladder and perform rescue.

Lecture:

1. The instructor will facilitate classroom discussion on case studies of firefighter injuries and deaths during wildland operations and identify how these incidents can be avoided based on current safety guidelines.

Distance Learning

1. Online instructor lecture on Personal Protection Equipment needed for structural firefighting. Following the lecture, students will Identify the components of structural PPE in a report and post their reports for other students to review and discuss.

Typical Out of Class Assignments

Reading Assignments

1. The students will read the assigned material on fire technology education and the firefighter selection process in the text. They will then develop a personal educational plan. 2. The students will read provided material on the proper procedures and processes for a response to an unknown hazardous material spill. They will break in to small groups, after which they will be provided with scenarios of hazardous materials spills. The groups will outline proper response procedures and present their plans to the class.

Writing, Problem Solving or Performance

1. Given written scenarios, prepare a written response on how to manage an auto extrication rescue incident, applying information presented in class and from assigned text. 2. Working in groups using provided scenarios, solve problems related to fire suppression techniques in wildland incidents and present conclusions to the class.

Other (Term projects, research papers, portfolios, etc.)

Required Materials

- Fundamentals of Fire Fighter Skills and Hazardous Materials Response
  - Author: National Fire Protection Agency (NFPA) and the International Association of Fire Chiefs (IAFC)
  - Publisher: Jones & Bartlett Learning
  - Publication Date: 2019
  - Text Edition: 4th
  - Classic Textbook?:
  - OER Link:
  - OER:
- Firefighter's Handbook on Wildland Firefighting
  - Author: William C. Teie
  - Publisher: Deer Valley Press
  - Publication Date: 2005
  - Text Edition: 3rd
  - Classic Textbook?:
  - OER Link:
  - OER:
- Incident NFES 002710 NEW GEN FIRE SHELTER PMS411
  - Author: NWCG
  - Publisher: NIFC
  - Publication Date: 2017
  - Text Edition:
  - Classic Textbook?:
  - OER Link:
  - OER:
- ICS FIELD OPERATIONS GUIDE 420-I
  - Author: Firescope
  - Publisher: State of California
  - Publication Date: 2017
  - Text Edition:
  - Classic Textbook?:
  - OER Link:
  - OER:
- NFES 1077 Incident Response Guide
  - Author: NWCG
  - Publisher: NIFC
  - Publication Date: 2014
  - Text Edition:
  - Classic Textbook?:
  - OER Link:
  - OER:

Other materials and-or supplies required of students that contribute to the cost of the course.