

Module 2: Firefighter I (Basic)

SECTION 1 FIRE DEPARTMENT ORGANIZATION

- 1-I.04 Trainee shall identify the mission of the fire service
NFPA 1001 5.1.1 / not previously in SFFMA Curriculum
- 1-I.05 Trainee shall identify the role of other agencies as they relate to the fire department.
NFPA 1001 5.1.1 / not previously in SFFMA Curriculum
- 1-I.06 Trainee shall describe the components of the department's member assistance program.
NFPA 1001 5.1.1 / not previously in SFFMA Curriculum
- 1-I.07 Trainee shall identify the importance of physical fitness and a healthy lifestyle to the performance of duties of a firefighter
NFPA 1001 5.1.1 / not previously in SFFMA Curriculum
- 1-I.08 Trainee shall identify the critical aspects of NFPA 1500: *Standard on Fire Department Occupational Safety and Health Program*
NFPA 1001 5.1.1 / not previously in SFFMA Curriculum

SECTION 2 FORCIBLE ENTRY

- 2-I.03 Trainee shall identify basic construction of typical doors, windows, and walls **within the AHJ**.
NFPA 1001 5.3.4.A / SFFMA (2-02.01)

(Document with Forcible Entry #4 skillsheet found in appendix and retain on file)

- | | |
|------------------------------------|--------------------------------------|
| A. Doors <u>Skills FE 1</u> | B. Windows <u>Skills FE 2</u> |
| 1. Swinging doors | 1. Checkrail windows (double-hung) |
| a. Inward opening | 2. Casement windows (hinged) |
| b. Outward opening | 3. Projected windows (factory) |
| c. Double swing | 4. Awning and jalousie windows |
| 2. Wooden doors | 5. Plastic windows (high security) |
| 3. Metal doors | 6. Screened or barred windows |
| 4. Tempered plate glass doors | C. Walls <u>Skills FE 3</u> |
| 5. Revolving doors | 1. Masonry and veneered walls |
| 6. Sliding doors | 2. Metal walls |
| 7. Overhead doors | 3. Wood frame walls |
| 8. Fire doors | 4. Partition walls |

- 2-I.04 Trainee shall demonstrate operation of doors, windows, and locks;
NFPA 1001 5.3.4.A / SFFMA (2-02.01)

(Document with Forcible Entry #4 skillsheet found in appendix and retain on file)

- | | |
|-------------------------------|------------------------------------|
| A. Doors | B. Windows |
| 1. Swinging doors | 1. Checkrail windows (double-hung) |
| a. Inward opening | 2. Casement windows (hinged) |
| b. Outward opening | 3. Projected windows (factory) |
| c. Double swing | 4. Awning and jalousie windows |
| 2. Wooden doors | 5. Plastic windows (high security) |
| 3. Metal doors | 6. Screened or barred windows |
| 4. Tempered plate glass doors | C. Locks |
| 5. Revolving doors | 1. door locking devices |
| 6. Sliding doors | 2. window locking devices |
| 7. Overhead doors | |
| 8. Fire doors | |

- 2-I.05 Trainee shall identify and the dangers associated with forcing entry through doors, windows, and walls.
NFPA 1001 5.3.4.A, 5.3.10.A / SFFMA (2-02.01)

- 2-I.06 Trainee shall identify the method and technique of forcible entry through any door, window, ceiling, roof, floor and vertical barrier.

NFPA 1001 5.3.4.B / SFFMA (2-03.01)

(Document with Forcible Entry #4 skillsheet found in appendix and retain on file)

SECTION 3 FIRE SERVICE LADDER PRACTICES

3-I.06 Trainee shall identify and name the parts of various fire service ladders.

NFPA 1001 5.3.6.A / SFFMA (3-01.02)

- | | | |
|----------------|----------------------|-------------|
| A. Beam | G. Halyard | M. Rail |
| B. Bed section | H. Heat sensor label | N. Rung |
| C. Butt | I. Hooks | O. Staypole |
| D. Butt spur | J. Pawls (dogs) | P. Stops |
| E. Fly section | K. Protection plates | Q. Tie rod |
| F. Guides | L. Pulley | R. Tip |

3-I.07 Trainee shall identify the safety aspects of handling, raising, and climbing ladders:

NFPA 1001 5.3.6 / SFFMA (3-01.03)

(Document with Ladders #14 skillsheet found in appendix and retain on file)

A. Trainee shall describe the following hazards associated with carrying a ground ladder:

1. moving/guiding
2. other personnel
3. obstacles

B. Trainee shall describe the following hazards associated with raising a ground ladder:

1. exposure to heat or flame
2. stability of building
3. uneven terrain
 - a. Flat, stable surface
 - b. Non-skid surface
 - c. Soft Spots
4. overhead obstruction(s):
 - a. electricity
 - b. windows
 - c. falling debris
 - d. overhangs
5. High traffic areas (doorways)

C. Raising and Climbing

1. full protective equipment
2. proper lifting methods
3. ladder angle and spacing
4. pawls locked and halyard tied
5. heel person and tying ladder
6. hand placement and positioning
7. climbing with same hand and foot

D. Trainee shall describe and demonstrate the following techniques of working from ground ladders with tools and equipment

NFPA 1001 5.3.12 / SFFMA (3-01.03.D.)

1. working off a ladder with a pike pole using a leg lock.
2. working off a ladder with an axe using a leg lock.
3. working off a ladder with a pike pole using a safety harness.
4. working off a ladder with an axe using a safety harness.
5. deployment of a roof ladder on a pitched roof.
6. climbing with and using hoses.

E. Aerial Ladders **(if found in AHJ)**

1. overhead obstacles
2. zone of collapse
3. proper placement

3-I.08 Trainee shall identify how to select the proper ladder for the job to be done, and the maximum working heights for fire service ladders.

(Document with Ladders #14 skillsheet found in appendix and retain on file)

A. Trainee shall identify and select the appropriate length ladder for a given task.

NFPA 1001 5.3.6.A-B / SFFMA (3-01.04.A.)

B. Trainee shall identify the reach for the following ground ladders set at the proper climbing angle.

NFPA 1001 5.3.6, 5.3.6.A-B, 5.3.9, 5.3.10 / SFFMA (3-01.04.B.)

1. 10' folding ladder
2. 14' combination ladder
3. 14' with folding hooks
4. 24' extension ladder
5. 35' extension ladder

- 3-I.09** Trainee shall identify the proper placement and positioning of each type of fire service ladder for different types of jobs.
(Document with Ladders #14 skillsheet found in appendix and retain on file)
- A. Trainee, given intended use, shall describe and demonstrate the proper placement of a ground ladder.
NFPA 1001 5.3.6, 5.3.12 / SFFMA (3-01.05.A.)
1. Ventilation
 2. Rescue
 3. Vantage Point
 4. Roof
 5. Other factors
- B. Trainee shall identify the proper "angle of inclination" for climbing ground ladders.
NFPA 1001 5.3.6 / SFFMA (3-01.05.B.)
1. Roof
 2. Window
 - a. Entry
 - b. Ventilation or working
 - c. Rescue set

SECTION 4 FIRE HOSE PRACTICES

- 4-I.12** Trainee shall demonstrate the techniques of carrying hose into a building to be connected to a standpipe, and of advancing a hose line from a standpipe **(if found in AHJ)**.
NFPA 1001 5.3.10.B / SFFMA (4-01.12)
- 4-I.13** Trainee, given fire hose used for fire attack, 1½" or larger, and water supply, 2½" or larger, shall describe and demonstrate replacing a burst section of hose line.
NFPA 1001 5.3.10.A-B / SFFMA (4-01.14)
- 4-I.14** Trainee shall identify, select, and demonstrate the use of any nozzle.
NFPA 1001 5.3.10.A-B / SFFMA (4-02.01)
- A. Solid stream nozzle
 - B. Fog nozzle
 - C. Cellar nozzle
 - D. Applicator nozzle
 - E. Master stream device (Playpipe)
- 4-I.15** Trainee shall demonstrate all hand hose lays.
NFPA 1001 5.3.15.B / SFFMA (4-02.02)
- 4-I.16** Trainee shall demonstrate inspection and maintenance of fire hose, couplings, and nozzles, and recommend replacement or repair as needed.
NFPA 1001 5.5.2.A-B / SFFMA (4-02.03)
- (Document with Hose #16 skillsheet found in appendix and retain on file)**
- 4-I.17** Trainee shall demonstrate all hydrant to fire apparatus hose connections.
NFPA 1001 5.3.15 / SFFMA (4-02.04)
- (Document with Hose #15 skillsheet found in appendix and retain on file)**
- 4-I.18** Trainee shall select the proper adapters, appliances, nozzles, and hose, given different fire situations.
NFPA 1001 5.3.10 / SFFMA (4-02.05)
- 4-I.19** Trainee shall identify hose classifications by use and construction.
NFPA 1001 5.3.8, 5.3.10 / SFFMA (4-03.02)
- A. Use
 1. Attack hose
 2. Relay-supply hose
 3. Intake hose
 4. Extinguisher hose
 - B. Construction
 1. Woven-jacket hose
 2. Rubber-covered hose
 3. Braided hose
 4. Wrapped hose
- 4-I.20** Trainee shall identify types of fire hose couplings.
NFPA 1001 5.3.10.B / SFFMA (4-03.03)
- A. Threaded couplings
 - B. Storz-type couplings (Sexless couplings)
- 4-I.21** Trainee shall identify the methods of constructing fire hose couplings.
NFPA 1001 5.3.10 / SFFMA (4-03.04)
- 4-I.22** Trainee shall identify the methods of attaching couplings to fire hose.
NFPA 1001 5.3.10.B / SFFMA (4-03.05)

SECTION 5 SALVAGE AND OVERHAUL

- 5-I.01** Trainee shall identify the purpose of salvage, and its value to the public and the fire department.
NFPA 1001 5.3.14.A-B / SFFMA (5-01.01)
(Document with Salvage #8 skillsheet found in appendix and retain on file)
- 5-I.02** Trainee, as an individual and as a member of a team, shall demonstrate folds and rolls of salvage covers.
NFPA 1001 5.3.14.A-B / SFFMA (5-01.02)
- | | |
|--------------------------------|--|
| A. one-firefighter roll | E. one-firefighter accordion fold |
| B. one-firefighter double roll | F. two-firefighter accordion counter-payoff fold |
| C. one-firefighter fold | G. two-firefighter fold |
| D. one-firefighter donut roll | |
- 5-I.03** Trainee, as an individual and as a member of a team, shall demonstrate salvage cover throws.
NFPA 1001 5.3.14.A-B / SFFMA (5-01.03)
(Document with Salvage #8 skillsheet found in appendix and retain on file)
- A. balloon throw
B. single-edge snap throw
C. double-edge snap throw
- 5-I.04** Trainee shall demonstrate the techniques of inspection, cleaning, and maintaining salvage equipment.
NFPA 1001 5.5.1 / SFFMA (5-01.04)
(Document with Salvage #3 skillsheet found in appendix and retain on file)
- A. Salvage covers
B. Hand tools
- 5-I.05** Trainee shall identify the purpose of overhaul.
NFPA 1001 5.3.13 / SFFMA (5-01.05)
(Document with Overhaul #1 skillsheet found in appendix and retain on file)
- 5-I.06** Trainee shall demonstrate searching for hidden fires.
NFPA 1001 5.3.13.A-B / SFFMA (5-01.06)
(Document with Overhaul #1 skillsheet found in appendix and retain on file)
(Document with Overhaul #2 skillsheet found in appendix and retain on file)
- 5-I.07** Trainee shall demonstrate exposure of hidden fires by opening ceilings, walls, floors, and pulling apart burned materials.
NFPA 1001 5.3.13.A-B / SFFMA (5-01.07)
(Document with Overhaul #1 skillsheet found in appendix and retain on file)
(Document with Overhaul #2 skillsheet found in appendix and retain on file)
- 5-I.08** Trainee shall demonstrate how to separate and remove charred material from unburned material.
NFPA 1001 5.3.13.B / SFFMA (5-01.08)
(Document with Overhaul #1 skillsheet found in appendix and retain on file)
- 5-I.09** Trainee shall define and describe the following duties of firefighters left at the scene for fire and security surveillance, and identify the proper procedures for restoration of the premises after a fire.
NFPA 1001 5.3.14 / SFFMA (5-01.09)
(Document with Overhaul #2 skillsheet found in appendix and retain on file)
(Document with Salvage #8 skillsheet found in appendix and retain on file)
- | | |
|--------------------------------------|-------------------------------|
| A. Making the building safe | E. Restoring utility services |
| B. Making the contents safe | F. Securing the building |
| C. Making the area safe | G. Deodorizing the premises |
| D. Restoring fire protection systems | H. Releasing the premises |

SECTION 6 FIRE STREAMS

- 6-I.05** Trainee shall define the following methods of water application:
NFPA 1001 5.3.10.A / SFFMA (6-01.05)
- A. direct
B. indirect
C. combination
- 6-I.06** Trainee, given specific fire situations, shall select the proper nozzle and hose size for each.
NFPA 1001 5.3.10 / SFFMA (6-01.06)
- 6-I.07** Trainee shall identify characteristics of all types of fire streams.
NFPA 1001 5.3.10 / SFFMA (6-01.07)

- 6-I.08 Trainee shall identify precautions to be followed while advancing hose lines to a fire.
NFPA 1001 5.3.10 / SFFMA (6-01.08)
- 6-I.09 Trainee shall identify three (3) conditions that result in pressure losses in a hose line.
NFPA 1001 #.#.# / SFFMA (6-01.09)

SECTION 7 APPARATUS FAMILIARIZATION

- 7-I.01 Trainee shall be able to identify various types of automotive fire apparatus.
SFFMA (7-01.01)
- 7-I.02 Trainee shall identify various types of fire apparatus pumps and pumps components, and their functions.
SFFMA (7-01.02)
- 7-I.03 Trainee shall identify various types of aerial apparatus components and their functions (if found in AHJ).
SFFMA (7-01.03)
- 7-I.04 Trainee shall identify various types of tools and appliances, and their location on the fire department apparatus.
SFFMA (7-01.04)

SECTION 8 VENTILATION PRACTICES

- 8-I.07 Trainee shall demonstrate ventilation using a water fog.
NFPA 1001 5.3.11.B / SFFMA (8-01.06)
- 8-I.08 Trainee shall identify characteristics of a flashover.
NFPA 1001 5.3.11.A / SFFMA (8-01.08)
- 8-I.09 Trainee shall identify the characteristics of and describe the necessary precautions when ventilating the following roof types.
NFPA 1001 5.3.12 / SFFMA (8-02.02)
 - A. Pitched
 - 1. Hip
 - 2. Lantern
 - 3. Shed
 - 4. Mansard
 - 5. Gambrel
 - 6. Butterfly
 - B. Flat
 - C. Arched
- 8-I.10 Trainee shall identify the size and location of an opening for ventilation, and the precautions to be taken during ventilation.
NFPA 1001 5.3.11, 5.3.12.A / SFFMA (8-02.03)
 - A. Existing roof openings
 - B. Location of the fire
 - C. Direction in which the fire will be drawn
 - D. Type of building construction
 - E. Wind direction
 - F. Progress of the fire
 - G. Condition of the building
 - H. Safety precautions
 - I. Relative efficiency of large vs. small openings
- 8-I.11 Trainee shall identify and demonstrate natural and mechanical methods for horizontal ventilation of a structure.
(Document with Ventilation #1 skillsheet found in appendix and retain on file)
NFPA 1001 5.3.11, 5.3.12.A-B / SFFMA (8-03.01)
 - A. Trainee shall identify horizontal ventilation tools and equipment.
 - B. Trainee shall describe structural characteristics of buildings which aid in natural or mechanical ventilation.
 - 1. Scuttle hatches
 - 2. Bulkheads
 - 3. Skylights
 - 4. Monitors
 - 5. Light and ventilation shafts
 - C. Trainee shall identify and describe obstructions to horizontal ventilation.
NFPA 1001 5.3.11.A
 - D. Trainee shall describe weather conditions which affect horizontal ventilation.
NFPA 1001 5.3.11.A

SECTION 9 RESCUE OPERATIONS

- 9-I.03 Trainee, given the proper information, shall list the life threatening injuries that need to be observed in the proper order of priority.
NFPA 1001 5.3.9 / SFFMA (9-01.03)
- 9-I.04 Trainee shall demonstrate the techniques of packaging a victim for emergency transportation by:
NFPA 1001 5.3.9.B / SFFMA (9-01.05)
 - A. given a short/long spine board and wrapping materials, demonstrate the stabilizing of a victims spine and cervical area of the body, and
 - B. given a packaged victim and stretcher, demonstrate the transfer procedures of victims from their rescue scene.

SECTION 10 FIRST AID

There are no objectives required for this certification level.

SECTION 11 INSPECTION PRACTICES

There are no objectives required for this certification level.

SECTION 12 WATER SUPPLIES

- 12-I.01 Trainee shall identify the water distribution system, and other alternate water sources in the area of responsibility.
NFPA 1001 5.3.15.A / SFFMA (12-01.01)
- 12-I.02 Trainee shall identify a:
NFPA 1001 5.3.15.A / SFFMA (12-01.03)
A. dry-barrel hydrant
B. wet-barrel hydrant
- 12-I.03 Trainee shall demonstrate hydrant to pumper hose connections for forward and reverse hose lays.
NFPA 1001 5.3.15.B / SFFMA (12-01.05)
(Document with Water Supply #1 skillsheet found in appendix and retain on file)
A. Forward hose lay
B. Reverse hose lay
C. Split hose lay
- 12-I.04 Trainee shall define, explain, and demonstrate where applicable, the use of a rural dry fire hydrant system and static water supply source.
NFPA 1001 5.3.15.A-B / SFFMA (12-02.03)
(Document with Water Supply #3 skillsheet found in appendix and retain on file)
- 12-I.05 Trainee shall define a tanker shuttle.
NFPA 1001 5.3.15 / SFFMA (12-02.04)
(Document with Water Supply #3 skillsheet found in appendix and retain on file)
- 12-I.06 Trainee shall identify the apparatus, equipment, and appliances required to provide water at rural locations by relay pumping, large diameter hose, or a tanker shuttle.
NFPA 1001 5.3.15.A / SFFMA (12-02.05)
(Document with Water Supply #3 skillsheet found in appendix and retain on file)
- 12-I.07 Trainee shall demonstrate deployment of a portable water tank.
NFPA 1001 5.3.15.B / SFFMA (12-02.06)
(Document with Water Supply #3 skillsheet found in appendix and retain on file)
- 12-I.08 Trainee, given a chart, size of openings, and flow pressures, shall determine the quantity of water flowing from the openings.
NFPA 1001 5.3.15.A-B / SFFMA (12-03.03)
- 12-I.09 Trainee, given a chart, shall identify the approximate discharge capacities of various water pipe sizes.
NFPA 1001 5.3.15.A / SFFMA (12-02.04)

SECTION 13 FIRE PROTECTION SYSTEMS

- 13-I.01 Trainee shall identify a fire department sprinkler connection and water motor alarm.
NFPA 1001 Prerequisite / SFFMA (13-01.01)
- 13-I.02 Trainee shall connect hose line(s) to a fire department connection of a sprinkler or standpipe system.
NFPA 1001 Prerequisite / SFFMA (13-01.02)
- 13-I.03 Trainee shall define how the automatic sprinkler activates and releases water.
NFPA 1001 5.3.14.A / SFFMA (13-01.03)
A. Fusible Link
B. Glass (Frangible) Bulb
C. Chemical Pellet
- 13-I.04 Trainee shall temporarily stop the flow of water from a sprinkler head.
NFPA 1001 5.3.14.B / SFFMA (13-01.04)

SECTION 14 TRANSPORTATION EMERGENCIES

- 14-I.01 Trainee shall identify the modes of public transportation **which operate within the AHJ**:
NFPA 1001 Prerequisite / SFFMA (14-01.01)
- | | |
|-------------------------------------|---------------------------|
| A. aircraft | D. trams |
| B. trains | E. monorails |
| C. over road buses and school buses | F. high speed rail system |
- 14-I.02 Trainee, given a specific location in a municipality, shall identify the shortest route to a transportation incident.
NFPA 1001 5.3.3.A / SFFMA (14-01.04)

SECTION 15 FIRE BEHAVIOR (FIRE SCIENCE)

- 15-I.12 Trainee shall define the following units of measurements:
NFPA 1001 5.1.1 / SFFMA (15-02.01)
- | | |
|-------------------------------|----------------------------------|
| A. British Thermal Unit (BTU) | D. Calorie (C) |
| B. Fahrenheit (F°) | E. Joule, the SI unit for energy |
| C. Celsius (C°) | |
- 15-I.13 Trainee shall define thermal balance and imbalance.
NFPA 1001 5.1.1 / SFFMA (15-02.02)
- 15-I.14 Trainee shall identify chemical by-products of combustion.
NFPA 1001 5.1.1 / SFFMA (15-03.01)
- 15-I.15 Trainee shall define the diffusion flame process.
NFPA 1001 Prerequisite / SFFMA (15-03.02)
- 15-I.16 Trainee shall define the fire extinguishment theory.
NFPA 1001 5.1.1 / SFFMA (15-02.03)
- 15-I.17 Trainee shall identify pressure and velocity.
NFPA 1001 Prerequisite / SFFMA (15-03.04)

SECTION 16 FIRE ALARMS AND COMMUNICATION

- 16-I.01 Trainee shall define the procedure for a citizen to report a fire or other emergency.
NFPA 1001 5.2.1.A / SFFMA (16-01.01)
- 16-I.02 Trainee shall demonstrate receiving an alarm or a report of an emergency, and initiate action.
NFPA 1001 5.2.1.B / SFFMA (16-01.02)
(Document with Communications #1 skillsheet found in appendix and retain on file)
(Document with Communications #3 skillsheet found in appendix and retain on file)
(Document with Communications #4 skillsheet found in appendix and retain on file)
- 16-I.03 Trainee shall define the purpose and function of all alarm-receiving instruments and personnel-alerting equipment provided in the fire station.
NFPA 1001 5.2.1, 5.2.3.A / SFFMA (16-01.03)
(Document with Communications #4 skillsheet found in appendix and retain on file)
- 16-I.04 Trainee shall identify traffic control devices installed in the fire station to facilitate the response of apparatus.
NFPA 1001 5.2.1 / SFFMA (16-01.04)
- 16-I.05 Trainee shall identify procedures required for receipt and processing of emergency and non-emergency calls.
NFPA 1001 5.2.2 / SFFMA (16-01.05)
(Document with Communications #4 skillsheet found in appendix and retain on file)
- 16-I.06 Trainee shall define and demonstrate prescribed fire department radio procedures including:
NFPA 1001 5.2.1 / SFFMA (16-01.06)
- | |
|---------------------------------|
| A. routine traffic |
| B. emergency traffic |
| C. emergency evacuation signals |
- 16-I.07 Trainee shall define policy and procedures concerning the ordering and transmitting of multiple alarms of fire and calls for special assistance from the emergency scene.
NFPA 1001 5.2.1, 5.2.1.A / SFFMA (16-01.07)
- 16-I.08 Trainee shall define all fire alarm signals, including multiple alarms and special signals, governing the movements of fire apparatus, and the action to be taken upon the receipt of each signal.
NFPA 1001 5.2.1.A / SFFMA (16-01.08)
(Document with Communications #1 skillsheet found in appendix and retain on file)
(Document with Communications #3 skillsheet found in appendix and retain on file)

SECTION 17 PUBLIC RELATIONS

There are no objectives required for this certification level.

SECTION 18 RECORDS AND REPORTS

There are no objectives required for this certification level.

SECTION 19 EMERGENCY VEHICLE OPERATIONS

- 19-I.01 Trainee shall define and demonstrate the departmental policy and prescribed procedures for emergency vehicle response.
NFPA 1001 5.3.2 / SFFMA (19-01.01)
- 19-I.02 Trainee shall define and explain the authority and responsibility of the emergency vehicle operator.
NFPA 1001 Prerequisite / SFFMA (19-01.02)
- 19-I.03 Trainee shall have a thorough knowledge of applicable federal, state and local regulations governing the operation of fire service vehicles. NFPA 1451 4-01.1
NFPA 1001 5.3.2, 5.3.2.A / SFFMA (19-01.03)

SECTION 20 EMERGENCY MANAGEMENT

There are no objectives required for this certification level.

SECTION 21 FIRE CAUSE AND ORIGIN

There are no objectives required for this certification level.

SECTION 22 LIVE FIRE TRAINING

There are no objectives required for this certification level.

SECTION 23 FIREFIGHTER SAFETY/PERSONAL PROTECTIVE CLOTHING

- 23-I.08 Trainee shall identify procedures for inspecting, cleaning, and maintaining the components of a personal protective ensemble after each use.
NFPA 1001 5.1.2 / SFFMA (23-01.02)
(Document with Personal Protective Equipment #1 skillsheet found in appendix and retain on file)
- 23-I.09 Trainee shall describe the limitations of personnel working in a personal protective ensemble.
NFPA 1001 5.3.1.A / SFFMA (23-01.03)
- 23-I.10 Trainee shall demonstrate the operation of a Personal Alert Safety System (PASS) device.
NFPA 1001 5.3.1.B / SFFMA (23-01.04)
(Document with Safety #2 skillsheet found in appendix and retain on file)
- 23-I.11 Trainee shall identify the safety procedures and precautions during fire apparatus operations:
NFPA 1001 5.3.2.A / SFFMA (23-01.05)
(Document with Safety #9 skillsheet found in appendix and retain on file)
A. attire to be worn while riding on apparatus responding to an alarm and,
B. describe/list safety precautions required while riding fire apparatus.
- 23-I.12 Trainee shall define techniques for action when trapped or disoriented in a fire situation or in a hostile environment.
NFPA 1001 Annex 5.3.9 / SFFMA (23-01.07)
- 23-I.13 Trainee shall identify the elements and purpose of a Rapid Intervention Team/Crew per NFPA 1407
NFPA 1407 / not previously in SFFMA Curriculum
(Document with Safety #2 skillsheet found in appendix and retain on file)

SECTION 24 PUMP OPERATIONS/HYDRAULICS

Objectives are also good for the Driver/Operator Certification

- 24-I.01 Trainee shall identify the operating principles of single-stage and multi-stage centrifugal fire pumps as follows:
SFFMA (24-01.01)
A. Trainee shall list the percentages of rated capacity rated pressures and capacity in gallons per minute at the rated pressures of a fire department pump.

- B. Trainee, given a pump model/diagram, shall identify the main components indicating pump capacity, number of discharges and number of suction inlets.
- C. Trainee shall explain the difference between series/parallel operations of centrifugal fire pumps.
- D. Trainee, given the proper information, shall list three (3) advantages of a centrifugal fire pump as compared to other types of fire pumps (i.e. positive displacement, rotary vane).

24-I.02 Trainee shall demonstrate the use of mathematical calculations as required to solve fire department pumper hydraulic problems as follows:

SFFMA (24-01.02)

- A. Trainee shall list the mathematical orders of operation concerning addition, subtraction, multiplication, and division.
- B. Trainee shall solve mathematical problems finding the square root, and decimal/fraction conversions.
- C. Trainee shall list formulas used in finding GPM rates, friction loss of fire hose, engine pressure for hose layouts of nozzles, standpipe/sprinkler, master streams, and elevation operations.
- D. Trainee, given the proper information, shall list conversion factors of fire hose that are smaller/larger than 2½".
- E. Trainee shall calculate the correct engine pressures for a specific situation.

24-I.03 Trainee shall set up and perform pumping operations as follows:

SFFMA (24-01.03)

- A. Trainee shall list conditions that may result in pump damage.
- B. Trainee, given a pump model or diagram, shall demonstrate the proper test/check inspection routines required to assure operational readiness.
- C. Trainee, given a pump panel or diagram, shall identify all gauges and valves, and demonstrate their usage.
- D. Trainee, given a pump panel or diagram, shall identify the proper usage of valves and gauges to obtain a flow of water from the following:

1. 1" (booster line) discharge outlet	3. 2½" discharge outlet
2. 1½ or 1¾" discharge outlet	4. master stream discharge outlet (if applicable)
- E. Trainee, given a pump panel or diagram, shall demonstrate the proper technique of hooking up or connecting intake hoses to the pumps.
- F. Trainee, given an engine apparatus or diagram, shall demonstrate/list the engagement procedure of the PTO (power take-off) systems for the pumping apparatus.
- G. Trainee, given a pump panel or diagram, shall demonstrate the proper procedure of valve manipulation to produce water from:
 - 1. a positive water source
 - 2. a static water source by drafting
 - 3. booster tank

SECTION 25 GROUND COVER FIREFIGHTING

There are no objectives required for this certification level.

SECTION 26 HAZARDOUS MATERIALS

NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents. (2008 Ed.)

26-I.01 Trainee shall identify the purpose and content of the most current edition of NFPA 472: *Standard for Professional Competence of First Responders to Hazardous Materials Incidents.*

NFPA 472 / SFFMA (26-01.01)

26-I.02 Trainee shall demonstrate knowledge of what hazardous materials are, and the risks associated with them in an incident.

NFPA 472 / SFFMA (26-01.02)

26-I.03 Trainee shall demonstrate knowledge of the potential outcomes associated with an emergency created when hazardous materials are present.

NFPA 472 / SFFMA (26-01.03)

26-I.04 Trainee shall be able to recognize the presence of hazardous materials in an emergency.

NFPA 472 / SFFMA (26-01.04)

26-I.05 Trainee shall demonstrate knowledge of the role of the first responder awareness individual in the role of the department's emergency response plan including site and security control and the U.S. Department of Transportation (DOT) Emergency Response Guidebook.

NFPA 472 / SFFMA (26-01.05)

26-I.06 Trainee shall be able to recognize the need for additional resources, and have the ability to make appropriate notification to the communications center.

NFPA 472 / SFFMA (26-01.06)

SECTION 27 SELF-CONTAINED BREATHING APPARATUS

- 27-I.09 Trainee shall identify the procedure for daily inspections and maintenance of SCBA.
NFPA 1001 5.3.9.A, 5.5.1, 5.5.1.A / SFFMA (27-02.01)
- 27-I.10 Trainee, given each type of SCBA, shall demonstrate the correct procedure for recharging.
NFPA 1001 5.3.1.B / SFFMA (27-02.02)
(Document with SCBA #17 skillsheet found in appendix and retain on file)
- 27-I.11 Trainee shall demonstrate the following emergency techniques using SCBA to:
NFPA 1001 5.3.5.B / SFFMA (27-02.03)
- A. assist other firefighters
 - B. conserve air
 - C. show restrictions in use of by-pass valves
 - D. breathing from the breathing tube or regulator in the event of a face piece failure
- 27-I.12 Trainee shall demonstrate the procedure for cleaning and sanitizing SCBA for future use.
NFPA 1001 5.5.1.B / SFFMA (27-02.04)
- 27-I.13 Trainee shall identify and define the operational components of all types of protective breathing apparatus.
NFPA 1001 5.3.1, 5.3.1.A / SFFMA (27-03.01)
- 27-I.14 Trainee, without compromising the rescuers respiratory protection, shall demonstrate rescue procedures for the following:
NFPA 1001 5.3.9.B / SFFMA (23-03.02)
- A. a firefighter with functioning respiratory protection
 - B. a firefighter without functioning respiratory protection
 - C. a civilian without respiratory protection

SECTION 28 ROPES

- 28-I.01 Trainee, when given name, picture, or actual knot **used by the AHJ**, shall identify it and describe the purpose for which it would be used:
NFPA 1001 General Knowledge / SFFMA (28-01.01)
- | | |
|--|--------------------------------|
| A. Becket (sheet) bend | F. bowline on a bight |
| B. bowline | G. half hitch |
| C. clove hitch | H. figure-eight |
| D. half sheep shank with a safety * | I. figure-eight on a bight |
| E. chimney hitch * | J. figure-eight follow through |
- * Removed from program effective September 2012**
- 28-I.02 Trainee shall identify rope safety procedures.
NFPA 1001 5.1.1 / SFFMA (28-01.02)
- 28-I.03 Trainee shall identify and/or demonstrate the terms used when tying a knot or hitch **used by the AHJ**:
NFPA 1001 General Knowledge / SFFMA (28-01.03)
- | | |
|---|--|
| A. standing part when tying a knot or hitch | D. a loop when tying a knot or hitch |
| B. running part when tying a knot or hitch | E. a round turn when tying a knot or hitch |
| C. a bight when tying a knot or hitch | F. half hitch when tying a knot or hitch |
- 28-I.04 Trainee shall identify the construction characteristics and appropriate uses of both natural and synthetic fiber ropes:
NFPA 1001 5.1.1 / SFFMA (28-01.04)
- A. Characteristics of natural fiber (manila) ropes for utility use only:
 - 1. moisture retention
 - 2. floatability
 - 3. resistance to rot, mildew and attack by marine organisms
 - 4. resistance to surface abrasion
 - 5. resistance to acids, alkalis and solvents
 - 6. safe working strength of new rope: 3/8" manila, 1/2" manila, 5/8" manila, 3/4" manila
 - B. Characteristics of synthetic ropes:
 - 1. moisture retention
 - 2. floatability
 - 3. resistance to rot, mildew and attack by marine organisms
 - 4. resistance to surface abrasion
 - 5. resistance to acids, alkalis and solvents

6. safe working strength of new rope of: ½" nylon, dacron, polypropylene, braided nylon cover with nylon core; 5/8" nylon, dacron, polypropylene, braided nylon cover with nylon core; ¾" nylon, dacron, polypropylene, braided nylon cover with nylon core

- C. Uses of ropes:
1. hoisting tools and equipment
 2. securing tools and equipment to immovable objects
 3. rescue

28-I.05 Define a life safety rope and one and two person life safety rope including:

NFPA 1001 5.1.1 / SFFMA (28-01.05)

- A. maximum working load
- B. safety factor
- C. minimum breaking strength

28-I.06 Trainee, when given the proper size and amount of rope, shall demonstrate tying the following knots used by the AHJ:

NFPA 1001 General Knowledge / SFFMA (28-01.01)

(Document with Ropes #5 skillsheet found in appendix and retain on file)

- | | |
|-------------------------------------|--------------------------------|
| A. Becket (sheet) bend | F. bowline on a bight |
| B. bowline | G. half hitch |
| C. clove hitch | H. figure-eight |
| D. half sheep shank with a safety * | I. figure-eight on a bight |
| E. chimney hitch * | J. figure-eight follow through |

*** Removed from program effective September 2012**

SECTION 29 PORTABLE EXTINGUISHERS

29-I.01 Trainee shall identify the classification of types of fires as they relate to the use of portable extinguishers as follows:

NFPA 1001 5.3.16.A / SFFMA (29-01.01)

- A. Identify the four (4) classes of fire:
- | | |
|------------|------------|
| 1. Class A | 3. Class C |
| 2. Class B | 4. Class D |
- B. Identify examples of fuels for each class of fire:
- | | |
|------------|------------|
| 1. Class A | 3. Class C |
| 2. Class B | 4. Class D |

29-I.02 Trainee, given a group of differing extinguishers, shall identify the appropriate extinguishers for each class of fire as follows:

NFPA 1001 5.3.16.A / SFFMA (29-01.02)

(Document with Portable Fire Extinguishers #1 skillsheet found in appendix and retain on file)

- A. Class A fire:
- | | |
|---------------------------------|---------------------------------------|
| 1. pump tank water extinguisher | 3. foam |
| 2. stored-pressure water | 4. dry chemical (multi-purpose agent) |
- B. Class B fire:
- | | |
|-------------------------------------|---------------|
| 1. dry chemical (ordinary base) | 4. foam |
| 2. dry chemical (multi-purpose) | 5. Halon 1211 |
| 3. CO ₂ (carbon dioxide) | |
- C. Class C fire:
- | | |
|---------------------------------|-------------------------------------|
| 1. dry chemical (ordinary base) | 3. CO ₂ (carbon dioxide) |
| 2. dry chemical (multi-purpose) | 4. Halon 1211 |
- D. Class D fire:
1. powder extinguishing agents for metal fires.

29-I.03 Trainee shall identify the portable fire extinguisher rating system (Underwriters Laboratories, Inc.):

NFPA 1001 5.3.16.A / SFFMA (29-01.03)

- A. the basic symbols for the classes of fires,
- B. the picture-symbol labeling system for the selection of fire extinguishers,
- C. the numerical rating system for Class A & B fire extinguishers,
- D. the test procedure for rating Class C portable extinguishers,
- E. the test procedure for rating Class D portable extinguishers,
- F. portable extinguishers suitable for more than one class of fire

SECTION 30 BUILDING CONSTRUCTION

30-I.01 Trainee shall describe the relationship of building construction to fire behavior by:

NFPA 1001 5.3.4.A, 5.3.12.A / SFFMA (30-03.01)

- A. identifying the types of loads placed on a structure
- B. identifying loads as to the direction in which they are placed on structural members
- C. describing the effect of loads on various materials
- D. identifying terms associated with building construction

30-I.02 Trainee shall identify the various types of building construction characteristics:

NFPA 1001 5.3.12.A / SFFMA (30-03.02)

- A. wood
- B. ordinary
- C. steel
- D. fire resistive
- E. heavy timber
- F. non-combustible

30-I.03 Trainee shall describe the various structural elements in building construction by:

NFPA 1001 5.3.4.A, 5.3.12.A / SFFMA (30-03.03)

- A. defining fire resistance
- B. identifying foundation assemblies, foundation walls, floor assemblies, ceilings and ceiling assemblies, various types of wall construction, roof types, roof coverings, roof supports
- C. identifying potential hidden spaces in structural elements that would allow for communication of fire and smoke

30-I.04 Trainee shall identify the various building services for:

NFPA 1001 5.3.4.A, 5.3.12.A / SFFMA (30-03.04)

- A. movement of people throughout a structure; elevators and stairways
- B. mechanical operations of a building; heating, ventilating and air conditioning systems, utility chases and vertical shafts
- C. emergency accessibility in buildings; windowless walls, access panels, roof hatches, smoke and heat vents, and skylights

30-I.05 Trainee shall identify door and window assemblies by:

NFPA 1001 5.3.4 / SFFMA (30-03.05)

- A. various types
- B. describing fire doors and their method of operation
- C. identifying typical types of door construction
- D. identifying various window assemblies
- E. identifying types of windows

30-I.06 Trainee shall identify signs of potential collapse of a structure:

NFPA 1001 5.3.12.A / SFFMA (30-03.06)

- A. cracks in walls
- B. sagging roof
- C. walls out of line

30-I.07 Trainee shall define the following terms as they relate to building construction:

NFPA 1001 5.3.4 / SFFMA (30-03.10)

- A. veneer wall (exterior)
- B. party wall
- C. fire wall
- D. partition wall
- E. cantilever or unsupported wall
- F. load bearing

SECTION 31 PUBLIC FIRE EDUCATION

There are no objectives required for this certification level.