South Carolina CTE

Firefighter 1 (2014): Grades 10, 11, 12

Adopted 2014

Orientation and Fire Service History

1. Summarize the history and culture of the fire service. A.1
2. Describe the mission and organizational characteristics of the fire service. A.2
3. Identify the function of various fire company types and line functions in a fire department. A.3
4. Explain fire service organizational principles. A.4
5. Describe the function of fire department regulations and standard operating procedures. A.5
6. Identify external organizations likely to interact with fire departments. A.6

Firefighter Safety and Health

1. List the main types of job-related firefighter fatalities, injuries, and illnesses. B.1
2. Recognize the impact of firefighter fatalities on associated groups of people. B.2
3. Describe the NFPA and OSHA standards and regulations related to firefighter safety and health. B.3
4. Summarize the model that supports the concept of risk management. B.4
5. Describe the 16 Life Safety Initiatives and their importance. B.5
6. Describe fire department safety and health programs and awareness issues. B.6
7. Mount and dismount an apparatus. B.7
8. Describe ways to help prevent accidents and injuries in fire stations and facilities. B.8
9. Explain general guidelines for tool and equipment safety. B.9
10. Describe ways to maintain safety in training. B.10
11. State the practices a Firefighter I uses for emergency scene preparedness and safety. B.11

	12. Perform scene management at a roadway incident. B.12
	13. Explain the importance of personnel accountability. B.13
Fire Department Communications	1. Describe the information required to dispatch emergency services. C.1
	2. Handle emergency and non-emergency calls. C.2
	3. Describe the systems used for internal communications. C.3
	4. Explain radio limitations that may impact internal communications. C.4
	5. Use a portable radio for routine and emergency communications. C.5
Firefighter Personal Protective Equipment	1. Describe the purpose of personal protective equipment. D.1
	2. Describe characteristics of each type of personal protective equipment. D.2
	3. Summarize guidelines for the care of personal protective clothing. D.3
	4. Explain safety considerations for personal protective equipment. D.4
	5. Identify respiratory hazards and types of respiratory protection equipment. D.5
	6. Identify the components of an SCBA. D.6
	7. Describe the limitations of respiratory protection equipment. D.7
	8. Don and doff PPE and free-standing and vehicle-mounted protective breathing apparatus. - Don personal protective clothing. - Don PPE/SCBA for use at an emergency. - Don SCBA while seated. - Doff personal protective equipment. D.8
	9. Inspect and demonstrate proper care for protective breathing apparatus. Inspect an SCBA. D.9
	10. Summarize safety precautions for refilling SCBA cylinders. D.10
	11. Change an SCBA cylinder. D.11
	12. Explain safety precautions for SCBA use. D.12
	13. Describe non-emergency and emergency exit indicators and techniques. D.13
Building Construction	1. Describe the impact of fire on common building materials and classifications and their potential hazards to firefighters. E.1
	2. List the main types of occupancy classifications. E.2

	3. **Describe the basic construction of building components.** E.3
Fire Behavior	1. **Explain the science of fire as it relates to energy, forms of ignition, and modes of combustion.** F.1
	2. **Describe the impact of thermal energy on heat, temperature, and heat transfer.** F.2
	3. **Recognize the physical states of fuel.** F.3
	4. **Explain the relationship between oxygen and life safety.** F.4
	5. **Identify the products of self-sustained chemical reactions.** F.5
	6. **Explain the factors that affect fire development.** F.6
	7. **Describe the stages of fire development.** F.7
	8. **Recognize signs, causes, and effects of rapid fire development.** F.8
	9. **Describe the methods through which fire fighting operations can influence fire behavior.** F.9
Portable Fire Extinguishers	1. **Explain portable fire extinguisher classifications.** G.1
	2. **Describe types of portable fire extinguishers.** G.2
	3. **Define the ratings in a portable fire extinguisher rating system.** G.3
	4. **Explain the considerations taken when selecting and using portable fire extinguishers.** G.4
	5. **Operate a pressured-water extinguisher.** G.5
	6. **Identify procedures used for the inspection, care, and maintenance of portable fire extinguishers.** G.6
Ropes, Webbing, and Knots	1. **Compare and contrast the characteristics of life safety rope and utility rope.** H.1
	2. **Summarize basic guidelines for rope maintenance.** H.2
	3. **Perform an inspection, clean, and store rope.** H.3
	4. **Describe webbing and webbing construction.** H.4
	5. **Describe parts of a rope and considerations in tying a knot.** H.5

6. Tie knots commonly used in the fire service.
Tie an overhand knot.
Tie a bowline knot.
Tie a clove hitch.
Tie a clove hitch around an object.
Tie a figure-eight knot.
Tie a figure-eight bend.
Tie a figure-eight on a bight.
Tie a figure-eight follow through.
Tie a water knot. H.6
7. Describe knot characteristics and knot elements. H.7
8. Select commonly used rope hardware for specific applications. H.8
9. Summarize hoisting safety considerations. H.9
10. Hoist tools and equipment.
Hoist an axe.
Hoist a pike pole.
Hoist a dry hoseline.
Hoist a charged hoseline. H.10

Structural Search, Victim Removal, and Firefighter Survival

1. Summarize the impact of building construction and floor plans on structural search techniques. I.1
2. Explain size-up and situational awareness considerations during structural searches. I.2
3. Summarize safety guidelines for structural search and rescue. I.3
4. Recognize and explain primary and secondary search techniques. I.4
5. Perform a primary and secondary search.
Perform a primary search.
Perform a secondary search. I.5
6. Describe victim removal methods. I.6
7. Explain firefighter survival methods and actions that are needed. I.7
8. Describe the actions of a rapid intervention crew or team (RIT/RIC) when locating a downed firefighter. I.8
9. Demonstrate rescue drags and carries for one and two rescuers.
Perform a webbing drag.
Perform an extremities lift/carry – Two-rescuer method. I.9
10. Transmit a MAYDAY report. I.10
11. Perform emergency breathing procedures when using an SCBA. I.11
12. Withdraw from a hostile environment with a hoseline. I.12
13. Perform low-profile maneuvers with and without SCBA. I.13
14. Disentangle from debris or wires. I.14

Scene Lighting	1. **Identify types of emergency scene lighting equipment.** J.1
Forcible Entry	1. **Explain the basic principles of forcible entry.** K.1
	2. **Describe the basic construction of locksets.** K.2
	3. **Describe considerations when using forcible entry tools.** K.3
	4. **Inspect and maintain forcible entry tools. - Inspect and maintain hand tools and equipment. - Inspect and maintain power tools and equipment. ** K.4
	5. **Explain considerations when forcing entry through various types of doors and locks.** K.5
	6. **Force entry through various types of doors. - Force entry through an inward-swinging door. - Force entry through an outward-swinging door. ** K.6
	7. **Force entry through locks, padlocks, overhead doors, and fire doors. - Force entry using the through-the-lock method. - Force entry through a padlock. ** K.7
	8. **Explain considerations when forcing entry through various types of windows and covers.** K.8
	9. **Force entry through a window.** K.9
	10. **Describe forcible entry methods for breaching walls.** K.10
	11. **Explain forcible entry methods for breaching floors.** K.11
Ground Ladders	1. **Describe the construction and identify the parts of ground ladders.** L.1
	2. **Recognize the types of ladders used in the fire service.** L.2
	3. **Clean, inspect, and maintain a ladder.** L.3
	4. **Explain safety considerations when selecting, lifting, and lowering a ladder.** L.4
	5. **Perform various ladder carries and raises. - Perform a one-firefighter ladder raise. - Perform a two-firefighter carry and flat raise. - Perform a two-firefighter carry and beam raise. - Deploy a roof ladder. ** L.5
	6. **Demonstrate procedures for moving and placing a ground ladder.** L.6
	7. **Explain the methods used to secure ladders.** L.7
	8. **Describe ladder climbing considerations.** L.8

	9. Remove and assist victims down a ladder. - Leg lock on a ground ladder. - Assist a conscious victim down a ground ladder. - Assist an unconscious victim down a ground ladder. L.9
Tactical Ventilation	1. Describe reasons for tactical ventilation. M.1
	2. Identify considerations that affect the decision to ventilate. M.2
	3. Explain the critical fire behavior indicators present during tactical ventilation. M.3
	4. Define horizontal and vertical ventilation. M.4
	5. Explain the means for achieving horizontal and vertical ventilation. M.5
	6. Describe the types of horizontal and vertical ventilation. M.6
	7. Recognize other types of ventilation situations, including building systems and their effects. M.7
	8. Perform positive pressure ventilation. M.8
	9. Demonstrate various techniques for vertical ventilation. - Ventilate using a power saw. - Ventilate using an axe. M.9
Water Supply	1. Explain the ways water supply system components are used by firefighters. N.1
	2. Describe types of fire hydrants and hydrant markings. N.2
	3. Explain fire hydrant operation and inspection considerations. N.3
	4. Explain alternative water supply sources and methods of access. N.4
	5. Operate and connect to a hydrant. - Operate a hydrant. - Make a soft-sleeve hydrant connection. N.5
	6. Perform the methods used for rural water supply operations. - Perform a hard-suction hose connection for drafting. - Deploy a portable water tank. N.6
Fire Hose	1. Explain basic fire hose characteristics. O.1
	2. Describe different causes of and prevention methods for hose damage. O.2
	3. Identify basic inspection, care, and maintenance methods for fire hose. O.3
	4. Inspect and maintain a fire hose. O.4
	5. Compare various uses for hose appliances and tools. O.5

6. **Describe basic hose rolls.** O.6

7. **Perform hose rolls.
Make the straight hose roll.
Make the donut hose roll.
** O.7

8. **Explain basic hose loads and finishes.** O.8

9. **Make hose loads.
Make the flat hose load.
Make the accordion hose load.
** O.9

10. **Describe and compare various methods to make pre-connected hose loads for attack lines.** O.10

11. **Make pre-connected hose loads for attack lines.
Make the pre-connected flat hose load.
Make the triple-layer hose load.
** O.11

12. **Explain the methods used for supply hose lays.** O.12

13. **Perform supply hose lays.
Make a hydrant connection from a forward hose lay.
Make the reverse hose lay from an attack pumper.
** O.13

14. **Describe and compare different methods for handling hoselines.** O.14

15. **Describe methods for advancing hoselines in various ways.** O.15

16. **Advance hoselines using various methods.
Advance a hose load.
Advance a charged hoseline using the working line drag method.
Advance a line into a structure.
Advance a line up and down an interior stairway.
Connect a stairway standpipe and advance an attack hoseline onto a floor.
Advance an uncharged line up a ladder into a window.
Advance a charged line up a ladder into a window.
Operate a charged attack line from a ladder.
Operate a large hoseline for exposure protection (one-firefighter method).
Operate a large hoseline (two-firefighter method).
Extend a hoseline.
** O.16

17. **List the considerations that can impact operating attack hoselines.** O.17

18. **Replace a burst hoseline.** O.18

Fire Streams

1. **Explain the way vaporization and steam relate to the extinguishing properties of water.** P.1

2. **Identify the factors that create pressure loss or gain.** P.2

3. **Describe the impact water hammer has on fire streams.** P.3

4. **Explain fire stream patterns and their possible limiting factors.** P.4

	5. Describe the three types of fire stream nozzles. P.5
	6. Compare the different types of nozzle control valves. P.6
	7. Describe the factors in operating and maintaining handline nozzles. P.7
	8. Operate and maintain handline nozzles. - Operate and maintain a flat hose load. - Operate and maintain an accordion hose load. - Operate and maintain a preconnected flat hose load. - Operate and maintain a triple-layer hose load. P.8
Fire Control	1. Describe initial factors and considerations when suppressing structure fires. Q.1
	2. Perform direct, indirect and combination attacks and gas cooling techniques. - Perform a direct fire attack. - Perform an indirect fire attack. - Perform combination and gas cooling fire attacks. Q.2
	3. Perform safety procedures for upper level and below ground structure fires. Q.3
	4. Turn off and/or control building utilities. Q.4
	5. Support fire protection systems at protected structures. - Connect hoseline to a Fire Department Connection (FDC). - Operate a sprinkler system control valve. - Stop the flow of water from a sprinkler head. Q.5
	6. Deploy, supply, and operate master stream devices. Q.6
	7. Describe and identify situations and hazards with suppressing Class C fires. Q.7
	8. Describe actions associated with suppressing Class D fires. Q.8
	9. Suppress a vehicle fire. Q.9
	10. Compare methods used to suppress fires in stacked and piled materials, small unattached structures, and trash containers. Q.10
	11. Compare the types and influences on ground cover fires. Q.11
	12. Summarize safety principles and practices when fighting ground cover fires. Q.12
Loss Control	1. Explain the philosophy of loss control. R.1
	2. Describe the ways pre-incident planning impacts loss control. R.2
	3. Determine appropriate salvage procedures. R.3
	4. Compare and contrast different types of salvage covers. R.4

	5. **Fold, roll, spread, and improvise with salvage covers. - Clean, inspect, and repair a salvage cover. - Roll a salvage cover. - Spread a rolled salvage cover. - Fold a salvage cover for a one-firefighter spread. - Spread a folded salvage cover – One-firefighter method. - Fold a salvage cover for a two-firefighter spread. - Spread a folded salvage cover – Two-firefighter balloon throw. - Construct a water chute without pike poles. - Construct a water chute with pike poles. - Construct a catchall. - Make a chute and attach it to a catchall. ** R.5
	6. **Describe ways to cover openings during salvage operations.** R.6
	7. **Explain methods used to maintain fire safety during overhaul.** R.7
	8. **Describe factors that influence locating hidden fires.** R.8
	9. **Locate and extinguish hidden fires.** R.9
	10. **Explain the ways a thermal imager can be used during overhaul.** R.10
Fire Origin and Cause Determination	1. **Explain obvious signs of the area of origin.** S.1
	2. **Describe the relationship between fire cause classifications and cause determination.** S.2
	3. **Recognize signs of arson.** S.3
	4. **Describe the importance of preserving evidence and explain the techniques for preserving evidence.** S.4
Fire and Life Safety Initiatives	1. **Explain the steps taken during fire and life safety program development.** T.1
	2. **Describe the components involved in fire and life safety program delivery.** T.2
	3. **Explain the impact of safety hazards, messages, and target audiences on creating fire and life safety education programs.** T.3
	4. **Indicate ways to identify and prevent firesetter development.** T.4
	5. **Describe the role of a Firefighter I in enforcing fire and life safety codes.** T.5