

Instructional Framework

Fire Service
43.0100.00



Domain 1: Fire Ground Functions	
Instructional Time: 30-35%	
STANDARD 6.0 Examine Fire Service Water Supply And Demonstrate Fire Streams	
6.1 Describe water supply sources including alternate and rural delivery.	<ul style="list-style-type: none"> • Sources of water supply • Types of water distribution systems • Components of water distribution system • Rural water supply operations
6.2 Identify types of fire hydrants, markings, locations, use, inspection and maintenance	<ul style="list-style-type: none"> • Types of fire hydrants • Hydrant classifications and systems • Hydrant components • Hydrant operations and inspection procedures
6.3 Identify fire hose sizes, applications, couplings and general care and maintenance	<ul style="list-style-type: none"> • Fire hose construction characteristics • Fire hose use classification • Fire hose coupling types • Inspection, care and maintenance of fire hose • Fire hose service testing procedures
6.4 Recognize and demonstrate various hose loads, pre-connect hose lines and hose rolls	<ul style="list-style-type: none"> • Hose rolls • Preconnected and other attack hose loads • Supply hose loads and lays • Hoseline deployment and advancement methods
6.5 Demonstrate the operation of hose lines and associated appliances and hose tools	<ul style="list-style-type: none"> • Hose tools • Hose appliances • Supply hose lines • Attack hose lines
6.6 Explain the principles of fire streams (e.g., types, design, operation and nozzle pressure effects and flow capabilities) and the precautions to be followed when advancing hose lines	<ul style="list-style-type: none"> • Characteristics and extinguishing properties of water • Fire stream nozzle types • Fire stream nozzle characteristics, uses and affects • Classification of fire streams • Nozzle control and safety procedures • Water Hammer.
6.7 Demonstrate fire stream tactics (e.g., extinguishing properties of water, steam conversion and friction loss; opening, closing and adjusting nozzle flow and patterns; and indirect, combination and direct fire attack with fire streams)	<ul style="list-style-type: none"> • Fire stream nozzle operation • Inspection and maintenance of fire stream nozzles • Fire stream nozzle application/attack methods

	<ul style="list-style-type: none"> • Nozzle control and safety procedures • Foam stream characteristics and application methods
STANDARD 7.0 Examine Fire Ground Functions	
7.1 Describe observational practices en route and on the scene and strategies and tactics to protect and secure the scene	<ul style="list-style-type: none"> • Situational awareness • Incident size up and assessment • Characteristics of offensive and defensive fire attack strategies • Tactics associated with strategies • Hazards of emergencies en route • Pre plan
7.2 Describe various forcible entry tools, ladders and use and techniques	<ul style="list-style-type: none"> • Forcible entry situations • Forcible entry method objectives and techniques • Forcible entry tools type, function, use techniques, inspection and care • Safety considerations associated with conducting forcible entry activities • Ground ladder use situations • Ground ladder construction and components • Types of ground ladders, uses and functions • Inspection, care, maintenance, and service testing of ground ladders • Ground ladder carries, placement, and raises • Climbing and functions working on ground ladders • Ground ladder safety
7.3 Describe conventional forcible entry through doors and windows and to breach walls	<ul style="list-style-type: none"> • Ladder situations requiring forcible entry • Ladder forcible entry techniques • Ladder safety considerations associated with forcible entry
7.4 Describe salvage basics (e.g., covers and equipment, care and maintenance)	<ul style="list-style-type: none"> • Philosophy of loss control as it relates to salvage operations and functions • Salvage considerations and situations • Salvage methods and techniques • Salvage tools and equipment types • Use of salvage tools and equipment including salvage covers, carryalls, catchalls, runners, dewatering devices and others. • Inspection, care and maintenance of salvage tools and equipment
7.5 Describe overhaul procedures, including locating hidden fires and fire safety procedures	<ul style="list-style-type: none"> • Philosophy of loss control as it pertains to overhaul operations and functions • Overhaul considerations and situations • Techniques for locating hidden fires • Thermal imaging cameras use during overhaul • Safety considerations during overhaul operations
7.6 Explain fire ground search safety guidelines including the use of Rapid Intervention Crews (RIC) and the removal of downed firefighters	<ul style="list-style-type: none"> • Considerations during search and rescue operations • Equipment and resources needed and used during rescue operations • Characteristics and methods for conducting primary and secondary searches • Mayday situation definition, activation, and response action components

	<ul style="list-style-type: none"> • Self-rescue/survival techniques • Safety procedures during rescue operations
7.7 Explain procedures for conducting a search in a multi-story building and search and rescue marking systems	<ul style="list-style-type: none"> • Search priorities associated with large areas and multi-story buildings • Methods of identifying searched areas • Victim removal or separation for hazard techniques
7.8 Demonstrate several methods of victim removal	<ul style="list-style-type: none"> • Drags and carry characteristics and uses • Procedures for conducting search and rescue of victim • Self-rescue/survival techniques
7.9 Describe reasons and considerations for fire ground ventilation	<ul style="list-style-type: none"> • Objectives for tactical ventilation • Consideration for decision to ventilate • Effects of ventilation on fire behavior, structure, and life safety • Equipment and resources needed for ventilation
7.10 Examine the effects of building systems on fires	<ul style="list-style-type: none"> • Effects of building systems (ex.HVAC systems)
7.11 Explain vertical, horizontal and forced ventilation	<ul style="list-style-type: none"> • Types and methods of tactically ventilating a structure • Equipment and resources needed for each type of ventilation
STANDARD 11.0 Analyze Community Risk Reduction	
11.1 Describe fire protection systems and portable fire extinguishers	<ul style="list-style-type: none"> • Fire alarm system types, components, and method of operation • Fire protection system types, components and method of operations • Portable fire extinguisher types and designed uses
11.2 Demonstrate proper use of portable fire extinguishers	<ul style="list-style-type: none"> • Portable fire extinguisher classifications • Ratings in a portable fire extinguisher • Procedures for using a portable fire extinguisher • Procedures for inspecting a portable fire extinguisher
11.3 Describe the various alarm and suppression systems and their applications	<ul style="list-style-type: none"> • Fire alarm system types, components and method of operation • Automatic sprinkler systems types, actuation mechanisms and characteristics • Smoke management systems
11.4 Describe suppressing classes B, C and D structure fires	<ul style="list-style-type: none"> • Tactical approaches and procedures used in the fire attack and control of each class of fire • Extinguishing agents used in the fire attack and control of each class of fire • Safety procedures and considerations in the fire attack and control
11.5 Describe various roles and responsibilities of emergency apparatus types on emergency incidents	<ul style="list-style-type: none"> • Emergency incidents types • Emergency apparatus types and company functions of each
11.6 Describe career pathways specific to community risk reduction in and outside the fire service (private and public)	<ul style="list-style-type: none"> • Functions of pathways in public education, fire inspection and other risk reduction roles in and out of fire service
11.7 Explain steps taken to protect evidence, determine the cause and origin, stop property loss and secure incident scene	<ul style="list-style-type: none"> • Causes of fire • Reasons and need for preserving evidence • Evidence preservation methods

	<ul style="list-style-type: none"> • Fire cause and determination techniques
11.8 Define NFPA 1033 and identify the roles and responsibilities of fire inspectors, education and information specialists and the 5 Es of community risk reduction (e.g., engineering, education, enforcement, economic incentives and emergency response)	<ul style="list-style-type: none"> • Components of effects of each of the 5 Es on reducing risks

Domain 2: Fire Behavior and Structural	
Instructional Time: 25-30%	
STANDARD 4.0 Explain Fire Behavior	
4.1 Describe the fire triangle and fire tetrahedron	<ul style="list-style-type: none"> • Components of the fire triangle and tetrahedron • Understanding of how the removal of components of the triangle and tetrahedron cause fire extinguish
4.2 Describe transmission of heat	<ul style="list-style-type: none"> • Mechanism of heat transfer
4.3 Explain various states of fuel	<ul style="list-style-type: none"> • Physical states of fuels and their characteristics
4.4 Describe the classifications of fire (e.g., A, B, C, D and K)	<ul style="list-style-type: none"> • Classifications of fire (A,B,C,D and K)
4.5 Explain the phases of fire growth	<ul style="list-style-type: none"> • Stages of fire development and characteristic associated with each step
STANDARD 5.0 Evaluate Building Construction Relative to Fire Behavior and Structural Performance	
5.1 Define and use construction terminology	<ul style="list-style-type: none"> • Building construction component terminology • Common terminology in fire service
5.2 Identify common building materials and construction features such as door size up and locks and locking devices	<ul style="list-style-type: none"> • Building material component and construction methods • Building opening materials, components and security devices
5.3 Describe the principles of building construction and classification of construction methods	<ul style="list-style-type: none"> • Building classification system
5.4 Contrast strengths and weaknesses of different types of construction	<ul style="list-style-type: none"> • Expected fire behavior and impacts of fire on each type of building construction • Ability to breach and gain access into or out of each type of building construction
5.5 Identify dangerous building conditions that can lead to firefighter injury and fatality	<ul style="list-style-type: none"> • Dangerous conditions to firefighter injury and fatality
5.6 Research a firefighter fatality (NIOSH) report where building construction was a factor	<ul style="list-style-type: none"> • How the building contributed to the fatality

Domain 3: Health and Safety

Instructional Time: 20-25%

STANDARD 2.0 Examine Personal Responsibility for Health and Wellness

2.1 Analyze sources of stress, including fire service related crises and identify strategies to manage stress	<ul style="list-style-type: none">• Main types of job-related firefighter fatalities, injuries, and illnesses.• Sources of stress and how to reduce and cope with stresses
2.2 Evaluate health-compromising risk behaviors on the job and in personal life and identify successful prevention and intervention techniques	<ul style="list-style-type: none">• Sources of stress• Mechanism, tools and programs designed to cope with stress
2.3 Describe various fire service health and wellness programs and Employee Assistance Programs (EAP)	<ul style="list-style-type: none">• Fire department safety and health programs• Components, functions, and activities of an EAP• Component, functions and activities of CISM
2.4 Identify functional exercises specific for firefighters (e.g., warm-up, flexibility and core strength exercises; cardiovascular exercises; and functional training exercises)	<ul style="list-style-type: none">• Firefighter job requirement and functions for physical ability and fitness• CPAT components• Specific needs and impacts of each type of training
2.5 Exhibit physical well-being through good nutrition and a personal fitness plan including exercises appropriate to firefighters	<ul style="list-style-type: none">• Components healthy diet and exercise
2.6 Identify components of a common physical fitness (e.g., muscular strength, muscular endurance, cardiovascular endurance, flexibility, body fat composition)	<ul style="list-style-type: none">• Components of exercise and training designed to target and improve each component of physical fitness
2.7 Complete a physical ability assessment	<ul style="list-style-type: none">• Physical ability assessment components, expectations, and what results indicate.• Areas of weakness and how to improve

STANDARD 3.0 Demonstrate the Proper use and Maintenance of Firefighting Personal Protective Equipment (PPE)

3.1 Identify various protective equipment that comprises the firefighter's ensemble	<ul style="list-style-type: none">• Components of firefighters PPE• Functions of PPE
3.2 Demonstrate the care of personal protective equipment	<ul style="list-style-type: none">• Inspection techniques of PPE• Care and maintenance of firefighter PPE• Gross Decon
3.3 Demonstrate donning and doffing of PPE within one minute	<ul style="list-style-type: none">• Proper donning and doffing techniques
3.4 Identify the components of a self-contained breathing apparatus (SCBA)	<ul style="list-style-type: none">• SCBA components
3.5 Describe respiratory hazards and when SCBA "shall be used"	<ul style="list-style-type: none">• Hazardous environments requiring SCBA usage• Characteristics of respiratory hazards
3.6 Practice donning and doffing SCBA	<ul style="list-style-type: none">• Procedures and steps for donning and doffing SCBA• Emergency procedures of SCBA
3.7 Explain the principles of air management consistent with NFPA 1404	<ul style="list-style-type: none">• Air management techniques• NFPA 1404 air management procedure

3.8 Replace SCBA air cylinders	<ul style="list-style-type: none"> • Air cylinders and oxygen tanks differences • SCBA air cylinders characteristics • Inspection procedures for SCBA cylinders
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Domain 4: Structure of the Fire Service	
Instructional Time: 15-20%	
STANDARD 1.0 Examine the Organization and Structure of Fire Service	
1.1 Explain fire service (e.g., history, mission, culture and organization)	<ul style="list-style-type: none"> • History ,mission, culture and organization
1.2 Diagram an organizational chart for a fire department	<ul style="list-style-type: none"> • Organizational structure for fire service organizations • Chain of command, unity of command, span of control philosophy
1.3 Describe standard operating procedures and policies for the fire department	<ul style="list-style-type: none"> • Definitions and concepts for policies and procedures of the fire service
1.4 Describe the fire agency's interactions with other community agencies	<ul style="list-style-type: none"> • Need and examples of other agency interactions • Relationships with the community partners
1.5 Describe the responsibility of the risk manager/manager of public safety in a fire department	<ul style="list-style-type: none"> • Responsibility of the department safety officer and an ISO •
1.6 Research occupational trends, career tracks and employment opportunities in fire service	<ul style="list-style-type: none"> • Different career paths • Trending paths
1.7 Research common firefighter injuries and fatalities	<ul style="list-style-type: none"> • LODD investigations • NIOSH report
1.8 Describe safety standards related to fire service (e.g., NFPA 1500 and OSHA)	<ul style="list-style-type: none"> • NFPA 1500 components and purpose • OSHA purpose • Components of department safety and health plan
1.9 Practice appropriate safety precautions in fire stations and facilities	<ul style="list-style-type: none"> • Safety procedures • Safety precautions
1.10 Practice personal safety in learning and training	<ul style="list-style-type: none"> • Personal safety and situational awareness • Safety procedures
STANDARD 8.0 Examine Incident Command	
8.1 Describe a fire department's risk management practices	<ul style="list-style-type: none"> • Risk analysis profile for incidents and situations
8.2 Describe tactical priorities	<ul style="list-style-type: none"> • Situational awareness • Personnel safety • RECEO-VS components as they contribute to incident • Life Safety

	<ul style="list-style-type: none"> ● Incident stabilization ● Property
8.3 Explain the three fire ground strategies	<ul style="list-style-type: none"> ● Life safety ● Incident stabilization ● Property conservation ● Offensive ● Defensive
8.4 Discuss fire ground factors	<ul style="list-style-type: none"> ● Resources needed on a fireground that contribute to success or failure ● Types of fire and varied factors
8.5 Discuss rescue profiles, IRIC and RIC	<ul style="list-style-type: none"> ● IRIC and/or RIC components and requirements ● IRIC and RIC activation in MAYDAY situation
8.6 Explain resource management and National Incident Management System (NIMS) concepts on the fire scene	<ul style="list-style-type: none"> ● NIMS concept and components ● NIMS application to incident management on a fire scene
8.7 Explain alarm room operations	<ul style="list-style-type: none"> ● Alarm room operations during an incident
8.8 Demonstrate proper radio procedures	<ul style="list-style-type: none"> ● Procedures to be followed during emergency and non-emergency operations ● Operation procedures of portable radios
8.9 Describe documentation and incident reporting for fire and EMS	<ul style="list-style-type: none"> ● NFIRS reporting system components and requirement

Domain 5: Special Operations

Instructional Time: 5-10%

STANDARD 9.0 Examine EMS/Extrication Management

9.1 Demonstrate the proper use of infection control precautions (BSI/PPE standards and regulations)	<ul style="list-style-type: none"> ● BSI/PPE for EMS ● Infection control
9.2 Describe common infectious diseases	<ul style="list-style-type: none"> ● Bloodborne pathogens ● HIV/AIDS ● Airborne pathogens ● TB
9.3 Describe the body systems (e.g., muscular, nervous, cardiovascular, respiratory and digestive)	<ul style="list-style-type: none"> ● Body system components and functions A&P
9.4 Describe (obtain) a basic CPR certification	<ul style="list-style-type: none"> ● BLS CPR
9.5 Describe (obtain) a basic First Aid certification	<ul style="list-style-type: none"> ● AHA/Red Cross First Aid
9.6 Describe emergency power and lighting equipment	<ul style="list-style-type: none"> ● Emergency lighting and power equipment
9.7 Discuss hydraulic, pneumatic and hand extrication tools	<ul style="list-style-type: none"> ● Extrication tools ● Hydraulic

	<ul style="list-style-type: none"> ● Pneumatic ● Hand ● Safety considerations
9.8 Discuss vehicle stabilization techniques	<ul style="list-style-type: none"> ● Techniques for stabilization of vehicles ● Safety concerns
9.9 Explain disentanglement and patient management procedures	<ul style="list-style-type: none"> ● Disentanglement of firefighters and patients ● Management procedures for patients
STANDARD 10.0 Perform Special Operations	
10.1 Describe (complete) the Hazardous Materials First Responder course meeting requirements of NFPA 472	<ul style="list-style-type: none"> ● Haz Mat meeting NFPA 472 ● First Responder level
10.2 Describe (complete) the Wildland S130/190 course or equivalent	<ul style="list-style-type: none"> ● Wildland S130/190 certifications
10.3 Describe types of ropes, uses, construction, care and maintenance	<ul style="list-style-type: none"> ● Rope type, construction, uses ● Care and maintenance
10.4 Demonstrate tying overhand, bowline, hitches and family of eights knots and hoisting tools and equipment	<ul style="list-style-type: none"> ● Ropes and tying knots ● Overhand ● Bowline ● Hitches ● Family of eights ● Hoisting tools and equipment