

# 2024 FIREFIGHTING

## Program Standards

### CONTENT STANDARD 1.0: PROFESSIONAL ORGANIZATIONS AND LEADERSHIP

Performance Standard 1.1: Student Leadership in Career Technical Student Organizations (CTSO) and Professional Associations

- 1.1.1 Explore the role of professional organizations and/or associations in the Firefighting Industry.
- 1.1.2 Define the value, role, and opportunities provided through career technical student organizations.
- 1.1.3 Engage in career exploration and leadership development.

### CONTENT STANDARD 2.0: ORGANIZATIONAL SYSTEMS

Performance Standard 2.1: Scope of Departmental Organization

- 2.1.1 Describe the history of the fire service.
- 2.1.2 Describe types of fire service organizations (e.g., volunteer, career, combination departments, wildland).
- 2.1.3 Describe the fire service mission and organizational structure, including the chain of command.
- 2.1.4 Describe the types of fire service crews and the duties of each.
- 2.1.5 Describe types of apparatus and the duties and functions of each.
- 2.1.6 Identify career tracks within the fire service industry, including related educational and certification requirements.
- 2.1.7 Describe strategies and tactics related to the ICS organization.

Performance Standard 2.2: Communication

- 2.2.1 Describe emergency and nonemergency communications systems and equipment used to process calls.
- 2.2.2 Describe radio communication principles and procedures (e.g., interpersonal guidelines).
- 2.2.3 Compare routine communication versus emergency communication.
- 2.2.4 Complete training for the Incident Command System (ICS) and the National Incident Management System (NIMS) 100, 200, 700, and 800, including for wildland firefighting, according to the emergency response guidebook.

### CONTENT STANDARD 3.0: BUILDING CONSTRUCTION AND FIRE

Performance Standard 3.1: Effects of Construction on Firefighting Tactics

- 3.1.1 Identify types of building construction and roof types (e.g., Type I-V).
- 3.1.2 Classify the building code's occupancy designations (e.g., residential, assembly, business).
- 3.1.3 Describe building construction related to firefighter safety, fire prevention, code inspection, firefighting strategy, and tactics.
- 3.1.4 Identify the hazards and tactical considerations associated with the various types of building construction.
- 3.1.5 Describe the different loads and stresses in building construction and how they relate to firefighter situation awareness.
- 3.1.6 Identify the indicators of potential structural failure as they relate to firefighter safety.

### CONTENT STANDARD 4.0: HEALTH AND SAFETY

Performance Standard 4.1: Workplace Safety

- 4.1.1 Identify industry health and fitness qualifications and standards.
- 4.1.2 Describe signs of stress and stress management techniques.

- 4.1.3 Describe resources available for counseling and psychological support for emergency services personnel and their families.
- 4.1.4 Describe cultural and behavioral change within emergency services relating to health and safety.
- 4.1.5 Describe the concept of empowering all emergency services personnel to stop unsafe acts.
- 4.1.6 Define risk management concepts (e.g., freelancing, accountability) and how they affect strategic and tactical decision-making.
- 4.1.7 Describe technological trends affecting safety and survival.
- 4.1.8 Describe NIOSH reviews regarding near-misses, injuries, and fatalities.
- 4.1.9 Describe the increase in violent incidents (e.g., terrorism, ASHER) and the way it impacts safety for emergency services personnel when responding to emergency scenes.
- 4.1.10 Complete CPR training.

#### **CONTENT STANDARD 5.0: PERSONAL EQUIPMENT AND TOOLS**

##### **Performance Standard 5.1: PPE and SCBA**

- 5.1.1 Identify the components of personal protective equipment (PPE).
- 5.1.2 Maintain PPE.
- 5.1.3 Identify the components of a self-contained breathing apparatus (SCBA).
- 5.1.4 Maintain the SCBA.
- 5.1.5 Define an immediately dangerous to life or health (IDLH) atmosphere.
- 5.1.6 Describe respiratory hazards that require SCBA to be used.
- 5.1.7 Describe principles of air management consistent with NFPA 1404.
- 5.1.8 Don and doff SCBA within an instructor-specified time.
- 5.1.9 Demonstrate replacement of SCBA air cylinders.

##### **Performance Standard 5.2: Firefighter Tools**

- 5.2.1 Describe the importance of safety in the design of apparatus and equipment.
- 5.2.2 Describe firefighter forced-entry tools (e.g., irons, axe, knife, window punch, flashlight, headlamp) and their functions.
- 5.2.3 Describe firefighter hand and power (e.g., hydraulic, electric) extrication tools (e.g., spreaders, cutters, rams, cribbing, harness, struts, airbags) and their functions.
- 5.2.4 Describe firefighter electrical safety tools (e.g., lineman gloves, hot sticks, wire tester) and their functions.
- 5.2.5 Describe knots and hoisting tools (e.g., ropes, webbing) and their functions.
- 5.2.6 Describe information and awareness tools (e.g., radio, drones, sensors, imaging, signaling devices) and their functions.

#### **CONTENT STANDARD 6.0: ETHICS AND LEGAL RESPONSIBILITIES**

##### **Performance Standard 6.1: Professional Conduct**

- 6.1.1 Compare law and ethics.
- 6.1.2 Define values, beliefs, and attitudes.
- 6.1.3 Describe concepts of accountability, obligation, and responsibility.
- 6.1.4 Define policies and procedures.
- 6.1.5 Describe legal responsibilities and employer policies, rules, and regulations regarding ethical conduct (e.g., discrimination, EAP, harassment) within the fire service.
- 6.1.6 Identify personal and professional consequences for unethical behaviors.
- 6.1.7 Describe governing bodies designed to promote safety and health (e.g., National Fire Protection Association [NFPA], Occupational Safety and Health Administration [OSHA], American National Standards Institute [ANSI], Underwriters Laboratories [UL], National Institute for Occupational Safety and Health [NIOSH]).
- 6.1.8 Describe standard operating procedures (SOPs) and standard operating guidelines (SOGs) used in the fire service.

#### **CONTENT STANDARD 7.0: FIRE BEHAVIOR AND COMBUSTION**

### Performance Standard 7.1: Fire Science

- 7.1.1 Identify the physical properties of the three states of matter.
- 7.1.2 Describe the fire tetrahedron.
- 7.1.3 Describe the physical and chemical properties of fire.
- 7.1.4 Describe the stages of fire development.
- 7.1.5 Define terms and concepts associated with the chemistry and dynamics of fire (e.g., thermal layering, neutral plane, rollover, flashover, backdraft, fuel-limited fires, ventilation-limited fires, flow path, entrainment, smoke explosion).
- 7.1.6 Describe the effects and dangers of air movement on the combustion process.
- 7.1.7 Describe various materials fires use as fuel (e.g., solid-fuel, liquid-fuel, gas-fuel).
- 7.1.8 Identify other suppression agents and strategies.
- 7.1.9 Describe the transmission of heat.
- 7.1.10 Describe the classification of fire (i.e., A, B, C, D, and K).
- 7.1.11 Describe the way the flow path influences the growth of a building fire.

### CONTENT STANDARD 8.0: FIRE SUPPRESSION TACTICS AND EQUIPMENT

#### Performance Standard 8.1: Water Supply Theory

- 8.1.1 Identify sources for water supplies.
- 8.1.2 Demonstrate knowledge of the characteristics of water as a fire suppression agent.
- 8.1.3 Demonstrate the operation of hose lines (e.g., friction loss), appliances, and tools.
- 8.1.4 Describe fire stream tactics (e.g., straight stream, fog nozzle patterns, angle application).
- 8.1.5 Describe fire hose damage.
- 8.1.6 Perform general fire hose maintenance and care.

#### Performance Standard 8.2: Extinguishers

- 8.2.1 Describe fire extinguisher rating systems.
- 8.2.2 Demonstrate the use of a portable fire extinguisher (e.g., pull, aim, squeeze, sweep [PASS] application method).
- 8.2.3 Describe inspection requirements for portable fire extinguishers.

#### Performance Standard 8.3: Company Operations

- 8.3.1 Define incident priorities.
- 8.3.2 Describe tactical priorities (e.g., rescue, exposures, containment, extinguish, overhaul - ventilation, and salvage [RECEO-VS], size up, locate the fire, identify and control flow path, cool the space from the safest location, extinguish the fire, rescue, and salvage [SLICERS]).
- 8.3.3 Describe engine, ladder, and rescue company functions during fires.
- 8.3.4 Describe reasons and techniques for fire ground ventilation.
- 8.3.5 Describe search and rescue operations and procedures.
- 8.3.6 Describe the types and uses of ladders.
- 8.3.7 Maintain and care for fire service ground ladders.
- 8.3.8 Perform inspection and maintenance of ropes.
- 8.3.9 Describe types of forcible entry and the situations that determine their use.
- 8.3.10 Describe the reasons for and types of salvage operations.
- 8.3.11 Describe the reasons for and types of overhaul operations.
- 8.3.12 Describe reasons and procedures for vehicle extrication.
- 8.3.13 Apply concepts of live fire training (NFPA 1403).
- 8.3.14 Describe hazardous material operations.

#### Performance Standard 8.4: Methods of Fire Prevention

- 8.4.1 Describe the fire inspection process.
- 8.4.2 Describe scientific methods used in fire investigation through NFPA 921.
- 8.4.3 Describe the concepts of an origin and cause investigation.
- 8.4.4 Describe the importance of public education as a critical component of life safety programs.



- 8.4.5 Describe the importance of fire sprinklers and code enforcement.
- 8.4.6 Describe the primary responsibilities of fire prevention personnel, including code enforcement, public information, and public and private protection systems.

## IDCTE Document Control Information

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