

**Florida Department of Education
CLUSTER CURRICULUM FRAMEWORK**

Cluster Name: FIRE FIGHTER II
Cluster Type: Job Preparatory
Occupational Area: Public Service Occupations
Components: Core, Two Programs, with Three Occupational Completion Points

	<u>SECONDARY</u>	<u>PSAV</u>
Grade Level	10, 11, 12	30, 31
Facility Code	264	264
CSO	FPSA	N/A
Co-op Method	Yes	Yes
Apprenticeship	Yes	Yes

I. MAJOR CONCEPTS/CONTENT: The purpose of this cluster is to prepare students for employment as a Fire Fighter I (SOC 33-2011), a Fire Fighter II (SOC 33-2011), and a Fire Apparatus Operator (SOC 53-3099).

Additionally, this is an instructional program that prepares individuals to provide initial care to sick or injured persons. The First Responder is the first to arrive at the scene of an illness or injury but does not have the primary responsibility for treating and transporting the injured person(s). First Responders may include law enforcement, correctional officers, correctional probation officers, life guards, fire services or basic life support non-licensed personnel who act as part of an organized emergency medical services team. This program must be approved by the Department of Education (DOE) utilizing standards jointly developed by the Florida Department of Law Enforcement (FDLE), Florida Department of Insurance (DOI) and the Emergency Medical Services (EMS) Bureau of the Department of Health (DOH) as specified in Section 401.435, F.S.

The program must be approved by the Division of State Fire Marshal, Bureau of Fire Standards and Training. Outcomes and Student Performance Standards in this program have been adapted from the National Fire Protection Association Standard for Fire Fighter Professional Qualifications (NFPA 1001) and the Standard for Fire Apparatus Driver/Operator Professional Qualifications (NFPA 1002), as regulated by the Florida Bureau of Fire Standards and Training through Chapter 633, F.S. and the State Fire Marshal Rules, Chapter 69A-37, Florida Administrative Code (F.A.C.).

The fire fighter program content includes, but is not limited to, orientation to the fire service, fire alarms and communication, vehicles, apparatus and equipment, fire behavior, portable extinguishers, fire streams, fundamentals of extinguishment, ladders, hoses, tools and equipment, forcible entry, salvage, overhaul, ventilation, rescue, protective breathing equipment, first responder emergency medical techniques, water supplies, principles of in-service inspections, safety, controlled burning, and employability skills.

The fire apparatus operator program content additionally includes, but is not limited to, an understanding of hydraulics and fluid dynamics, principles of fire department water supply, nomenclature and operations of fire apparatus, appliances, municipal and rural water systems, maintenance, and safety in operational procedures.

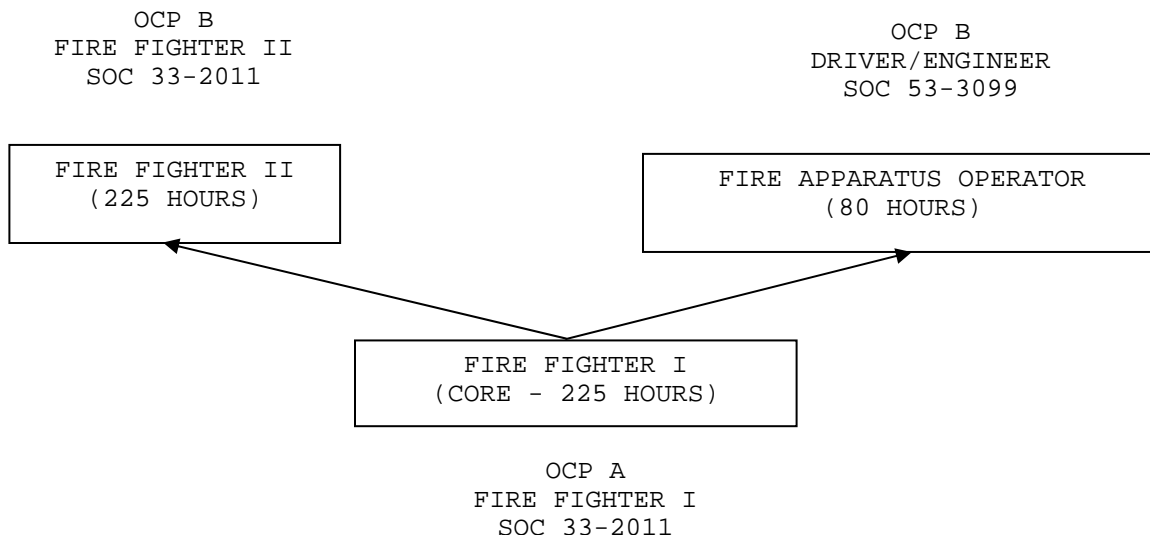
Reinforcement of basic skills in English, mathematics, and science appropriate for the job preparatory programs is provided through career and technical classroom instruction and applied laboratory procedures or practice. This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the public service industry; planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues and health, safety and environmental issues.

Listed below are the courses that comprise this program when offered at the secondary level:

- 8918110 - Fire Fighting 1
- 8918120 - Fire Fighting 2
- 8918130 - Fire Fighting 3

II. CLUSTER STRUCTURE: This cluster is a planned sequence of instruction consisting of a core, two programs, and three occupational completion points. When the recommended sequence is followed, the structure will allow students to complete specified portions of the program for employment or remain for advanced training. A student who completes the applicable competencies at any occupational completion point may either continue with the training program or terminate as an occupational completer.

Students must complete the core, or demonstrate the mastery of skills standards contained in the core, before advancing in either of the two programs: Fire Fighter II or Fire Apparatus Operator. Coursework in Emergency Vehicle Driving is strongly encouraged for students pursuing a Fire Apparatus Operator certification.



III. LABORATORY ACTIVITIES: Laboratory and field activities are included as an integral part of this program.

The Rules of the State Fire Marshal Chapter 69A-37 (F.A.C.), state: "In demonstrations involving the use of equipment and performance of tasks under nonhazardous conditions, whether in the classroom or the field, there shall be no less than one certified instructor for each ten students participating in the demonstrations.

In field work involving the handling of equipment and performance of tasks under conditions considered hazardous, there shall be no less than one certified instructor for each six students, but in no case shall there be less than two certified instructors on the scene. The instructors shall be placed to oversee the safety and effectiveness of the training."

IV. SPECIAL NOTES: The Florida Public Service Association, Inc. (FPSA) is the appropriate Career Student Organization (CSO) for providing leadership training and reinforcing specific career and technical skills. CSOs, when provided, shall be an integral part of the career and technical instructional program, and the activities of such organizations are defined as part of the curriculum in accordance with Rule 6A-6.065, F.A.C.

Completing a program and passing the Minimum Standards Examination of the Bureau of Fire Standards and Training (written and practical) are required before a program completer can be certified as a fire fighter. Certifications equivalent in competencies to the NFPA 1001 standard (such as Forestry Firefighter) may be held in lieu of the Fire Fighter I certification to allow advancement to other OCPs.

Certification as a Fire Fighter I or Fire Fighter II must be attained within one year of initial employment as a fire fighter. Other basic requirements for employment include high school graduation or equivalent, not convicted of a felony, having fingerprints on file, passing a physical examination, and good moral character. Refer to Chapter 633, F.S. and Chapter 69A-37, F.A.C. for specifics.

The student performance standards for First Responder were adapted and condensed from U.S. Department of Transportation Emergency Medical Services, First Responder Training Course, National Standard Curriculum Instructors Lesson Plan and American Society for Testing and Materials, Committee F-30. Administrators and instructors should refer to these materials for additional details.

First Responder certification is available through testing with the National Registry of Emergency Medical Technicians (NREMT). The NREMT may be contacted at 614-888-4484.

This program meets the DOH HIV/AIDS education requirement as specified in Section 381.0034, F.S., and the Department of Business and Professional Regulation (DBPR) HIV/AIDS education requirements as specified in Section 455.2226, F.S. Upon completion of this program, the instructor will provide a

certificate to the student verifying that the HIV/AIDS requirements have been met.

Cooperative training - OJT is appropriate for this program. Whenever cooperative training - OJT is offered, the following are required for each student: a training plan, signed by the student, teacher, and employer, which includes instructional objectives and a list of on-the-job and in-school learning experiences; a workstation that reflects equipment, skills, and tasks that are relevant to the occupation which the student has chosen as a career goal. The student must receive compensation for work performed.

If this program is offered for 450 hours or more, in accordance with Rule 6A-10.040 F.A.C., the minimum basic skills grade levels required for this postsecondary adult career and technical program are: Mathematics 10.0, Language 10.0, and Reading 10.0. These grade level numbers correspond to a grade equivalent score obtained on one of the state designated basic skills examinations. If a student does not meet the basic skills level required for completion from the program, remediation should be provided concurrently in Vocational Preparatory Instruction (VPI). Please reference the Rule for exemptions.

This program is offered in postsecondary adult vocational (PSAV) courses. Career and technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44, F.S.

When a secondary student with a disability is enrolled in a career and technical class with modifications to the curriculum framework, the particular outcomes and student performance standards that the student must master to earn credit must be specified on an individual basis. The job or jobs for which the student is being trained should be reflected in the student's desired postschool outcome statement on the Transition Individual Educational Plan (Transition IEP).

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Adult students with disabilities must self-identify and request such services. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

SCANS Competencies: To accomplish the Secretary's Commission on Achieving Necessary Skills (SCANS) competencies, instructional strategies for this program must include methods that require students to identify, organize, and use resources appropriately; to work with each other cooperatively and productively; to acquire and use information; to understand social, organizational, and technological systems; and to work with a variety of tools and equipment. Instructional strategies must also incorporate methods to improve students' personal qualities and higher-order thinking skills.

Florida Department of Education
INTENDED OUTCOMES

Program Title:	FIRE FIGHTER II	
	<u>Secondary</u>	<u>PSAV</u>
Program Numbers	8918100	P430205
CIP Number	0743.020300	0743.020300
Grade Level	10, 11, 12	30, 31
Standard Length	3 credits	450 Hours
Certification	FIRE FIGHT @7 G PUB SERV @7 G	FIRE FIGHT @7 G PUB SERV @7 G
Basic Skills		
Math		10
Language		10
Reading		10

V. **INTENDED OUTCOMES:** After successfully completing appropriate course(s) for each occupational completion point of this program, the student will be able to perform the following:

OCCUPATIONAL COMPLETION POINT - DATA CODE A

FIRE FIGHTER I - SOC 33-2011

- 01.0 Demonstrate knowledge of fire department organization, procedures and responsibilities.
- 02.0 Use fire alarms and communications equipment.
- 03.0 Demonstrate knowledge of fire behavior.
- 04.0 Use portable fire extinguishers.
- 05.0 Personal protective equipment.
- 06.0 Demonstrate knowledge of fire apparatus.
- 07.0 Use forcible entry equipment.
- 08.0 Demonstrate ventilation practices.
- 09.0 Use ropes, tools, and equipment.
- 10.0 Demonstrate rescue procedures.
- 11.0 Demonstrate safety procedures.
- 12.0 Use ladders.
- 13.0 Use fire hose, nozzles, and appliances.
- 14.0 Use fire streams.
- 15.0 Use water supplies.
- 16.0 Use private fire protection systems.
- 17.0 Demonstrate salvage procedures.
- 18.0 Demonstrate overhaul procedures.
- 19.0 Demonstrate knowledge of the fundamentals of extinguishment.
- 20.0 Demonstrate knowledge of the effects of building construction on fire fighting.
- 21.0 Participate in controlled burning exercises.
- 22.0 Sexually transmitted diseases/emergency medical care.
- 23.0 Demonstrate proficiency in first responder to medical emergencies techniques.
- 24.0 Detect the presence of hazardous materials.
- 25.0 Collect hazardous materials.
- 26.0 Initiate protective action.
- 27.0 Initiate the notification process.
- 28.0 Fire prevention, public fire education, and fire cause determination.

OCCUPATIONAL COMPLETION POINT - DATA CODE B

FIRE FIGHTER II - SOC 33-2011

- 29.0 Use fire alarms and communications equipment.
- 30.0 Use self-contained breathing apparatus.
- 31.0 Demonstrate ventilation practices.
- 32.0 Use ropes, tools, and equipment.
- 33.0 Demonstrate rescue procedures.
- 34.0 Demonstrate safety procedures.
- 35.0 Use ladders.
- 36.0 Use fire hose, nozzles, and appliances.
- 37.0 Use fire streams.
- 38.0 Use private fire protection systems.
- 39.0 Demonstrate salvage procedures.
- 40.0 Demonstrate overhaul procedures.
- 41.0 Follow fire prevention inspection practices.
- 42.0 Demonstrate knowledge of the fundamentals of extinguishment.
- 43.0 Participate in a physical fitness program.
- 44.0 Participate in controlled burning exercises.
- 45.0 Demonstrate proper response to hazardous materials incidents.

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: Fire Fighter II
Postsecondary Number: P430205

OCCUPATIONAL COMPLETION POINT - DATA CODE A
FIRE FIGHTER I - SOC 33-2011

01.0 DEMONSTRATE KNOWLEDGE OF FIRE DEPARTMENT ORGANIZATION, PROCEDURES AND RESPONSIBILITIES--The student will be able to:

- 01.01 Describe the organization of the fire department.
- 01.02 Explain the Firefighter I's role as a member of the organization.
- 01.03 Explain the Firefighter II's role as a member of the organization.
- 01.04 Explain the responsibilities of the firefighter in assuming and transferring command within an incident management system.
- 01.05 Explain the mission of the fire service and of the local fire department.
- 01.06 Explain the function of a standard operating procedure.
- 01.07 Explain the fire department rules and regulations that apply to the position of firefighter.
- 01.08 Explain the basic components of incident management and the firefighter's role within the local incident management system.
- 01.09 Explain the role of other agencies that may respond to emergencies.
- 01.10 Describe the components of a member assistance program.

02.0 USE FIRE ALARMS AND COMMUNICATIONS EQUIPMENT--The student will be able to:

- 02.01 Define the procedure for a citizen to report a fire or other emergency.
- 02.02 Demonstrate action taken upon receipt of an alarm or report of an emergency.
- 02.03 Define the purpose and function of all alarm-receiving instruments and personnel-alerting equipment in the fire station.
- 02.04 Identify procedures required for receipt and processing of business and personal calls.
- 02.05 Define and demonstrate prescribed fire department radio procedures, including:
 - a) Routine traffic
 - b) Emergency traffic
 - c) Emergency evacuation signals
- 02.06 Demonstrate both mobile and portable radio equipment.

03.0 DEMONSTRATE KNOWLEDGE OF FIRE BEHAVIOR--The student will be able to:

- 03.01 Define fire.
- 03.02 Define the fire triangle and tetrahedron.

- 03.03 Identify two chemical, mechanical, and electrical energy heat sources.
 - 03.04 Recognize the following conditions and explain their associated hazards and appropriate actions:
 - a) Incident fire
 - b) Rollover
 - c) Hot smoldering fire
 - d) Flashover
 - e) Steady state
 - f) Back draft
 - 03.05 Define the three methods of heat transfer.
 - 03.06 Define the three physical stages of matter in which fuels are commonly found.
 - 03.07 Define the hazard of finely divided fuels as they relate to the combustion process.
 - 03.08 Define flash point, fire point, and ignition temperature.
 - 03.09 Define concentrations of oxygen in air as it affects combustion and life safety.
 - 03.10 Identify three products of combustion commonly found in structural fires that create a life hazard.
 - 03.11 Define the following units of heat measurement:
 - a) British Thermal Unit (BTU)
 - b) Fahrenheit (°F)
 - c) Celsius (°C)
 - d) Calorie (C)
 - 03.12 Describe the process of thermal layering that occurs in structural fires and how to avoid disturbing the normal layering of heat.
- 04.0 USE PORTABLE FIRE EXTINGUISHERS--The student will be able to:
- 04.01 Identify the classification of types of fire as they relate to the use of portable extinguishers.
 - 04.02 Given a group of differing extinguishers, identify the appropriate extinguishers for the various classes of fire.
 - 04.03 Define the portable extinguisher rating system.
 - 04.04 Extinguish Class A and B fires using the appropriate portable fire extinguisher.
- 05.0 PERSONAL PROTECTIVE EQUIPMENT--The student will be able to:
- 05.01 Demonstrate the use of self-contained breathing apparatus (SCBA) in conditions of obscured visibility.
 - 05.02 Identify the physical requirements of the wearer of the SCBA.
 - 05.03 Identify the limitations of the SCBA.
 - 05.04 Identify the safety features of all types of self-contained breathing apparatus.
 - 05.05 Demonstrate the function of each component of the SCBA.
 - 05.06 Demonstrate that the SCBA is in a safe condition for immediate use.
 - 05.07 Demonstrate and document routine maintenance for SCBA including inspection, cleaning and sanitizing.
 - 05.08 Demonstrate the use of SCBA in conditions of restricted space.
 - 05.09 Demonstrate the following emergency techniques to be used in the event of SCBA failure:
 - a) Use of emergency bypass or purge-valve
 - b) Conservation of air

- c) Breathing from the breathing tube or regulator in the event of a face piece failure
- 05.10 Demonstrate techniques for maximizing the air capacity of an SCBA under work conditions.
- 05.11 Demonstrate the replacement of an expended cylinder of an SCBA assembly with a full cylinder.
- 05.12 Identify each of the following articles of protective equipment and describe their uses and limitations:
 - a) Helmet (with shield)
 - b) Hood
 - c) Boots
 - d) Gloves
 - e) Turnout or bunker coat
 - f) Turnout or bunker pants
 - g) SCBA
 - h) Personal alert safety system (PASS)
 - i) Eye protection
- 05.13 Describe and demonstrate the care, inspection, and maintenance of each of the above items of protective equipment.
- 05.14 Demonstrate the donning and doffing of the personal protective equipment listed in 5.10.
- 05.15 Identify the hazardous environments requiring the use of respiratory protection.
- 05.16 Demonstrate donning self-contained breathing apparatus while wearing protective clothing.
- 05.17 Demonstrate rescue procedures for the following, without compromising the rescuer's respiratory protection:
 - a) A firefighter with functioning respiratory protection
 - b) A firefighter without functioning respiratory protection
 - c) A civilian without respiratory protection
- 06.0 DEMONSTRATE KNOWLEDGE OF FIRE APPARATUS--The student will be able to:
 - 06.01 Identify the function of the following:
 - a) Engine company
 - b) Truck company
 - c) Rescue/Squad company
 - 06.02 Describe the functions of the following units:
 - a) Pumper/Engine
 - b) Aerial Apparatus
 - c) Mobile Water Supply Apparatus/Tanker
 - d) Wildland Fire Apparatus
 - e) ARFF - Aircraft Rescue and Fire Fighting
 - 06.03 Identify special equipment used in the following apparatus:
 - a) Rescue
 - b) Chemical
 - c) Floodlight and power
 - d) Air truck
- 07.0 USE FORCIBLE ENTRY EQUIPMENT--The student will be able to:
 - 07.01 Identify the materials and construction features of door and window locking devices.
 - 07.02 Identify the method and demonstrate procedures of through-the-lock entry for doors and windows.

- 07.03 Identify the method and procedure of properly cleaning, maintaining, and inspecting each type of forcible entry tool.
 - 07.04 Identify and safely carry at least 1 of the following:
 - a) Cutting tool
 - b) Prying tool
 - c) Pulling tool
 - d) Striking tool
 - 07.05 Identify the materials and construction features of doors, windows, and walls and the dangers associated with forcing entry through each.
 - 07.06 Describe and demonstrate the procedures for forcing entry through at least three different types each of doors, windows, and walls.
 - 07.07 Demonstrate opening various types of windows from inside and outside, with and without the use of fire department tools.
 - 07.08 Demonstrate breaking window or door glass and removing obstruction.
- 08.0 DEMONSTRATE VENTILATION PRACTICES--The student will be able to:
- 08.01 Define the principles of ventilation, and identify the advantages and effects of ventilation.
 - 08.02 Identify the dangers present and precautions to be taken in performing ventilation.
 - 08.03 Describe the advantages and disadvantages of the following types of ventilation:
 - A) Vertical
 - b) Horizontal
 - c) Trench/strip
 - d) Mechanical
 - e) Mechanical pressurization
 - f) Hydraulic
 - 08.04 Describe the signs, causes, and effects of backdraft explosions.
 - 08.05 Describe the methods or procedures used to prevent backdraft explosions.
 - 08.06 Identify the tools and equipment used during ventilation and demonstrate their use.
 - 08.07 Recognize the characteristics of, and list necessary precautions when, ventilating at least the following roof types:
 - a) Flat
 - b) Shed
 - c) Pitched
 - d) Arched
 - 08.08 Demonstrate the integrity of a roof system by sounding.
 - 08.09 Describe how the following factors are used to determine the integrity of a roof system:
 - a) Construction
 - b) Visual observation
 - c) Elapsed time of fire
 - 08.10 Define procedures for the types or ventilation referred to in 08.03.
- 09.0 USE ROPES, TOOLS, AND EQUIPMENT--The student will be able to:
- 09.01 When given the proper size and amount of rope, demonstrate tying a:
 - a) Bowline knot

- b) Clove hitch
 - c) Figure of eight on a bight
 - d) Figure of eight follow through
 - e) Figure of eight stopper knot
 - f) Chimney hitch
 - g) Becket or sheet bend
 - h) Girth hitch
 - i) Overhand safety knot
- 09.02 Using an approved knot, hoist any selected forcible entry tool, ground ladder, or appliance to a height of at least 20 feet (6m).
- 09.03 Demonstrate the techniques of inspecting, cleaning, maintaining, and storing rope.
- 09.04 Use a rope to tie ladders, hose, and other equipment so as to secure them to immovable objects.
- 09.05 Identify the reasons for placing a rope out of service.
- 09.06 Distinguish between life safety and utility ropes.
- 10.0 DEMONSTRATE RESCUE PROCEDURES--The student will be able to:
- 10.01 Demonstrate the removal of injured persons from the immediate hazard by the use of carries, drags, and stretchers.
- 10.02 Define and demonstrate primary and secondary search procedures under fire conditions:
- a) With a rope or hose
 - b) Without a rope or hose
- 10.03 Don a life safety harness that meets the requirements of NFPA 1983, Standard on Fire Service Life Safety Rope, Harnesses, and Hardware.
- 10.04 Inspect a life safety harness and identify the conditions that would require its removal from service.
- 10.05 Identify and demonstrate the use of the following rescue tools:
- a) Cribbing and shoring material
 - b) Block and tackle
 - c) Hydraulic devices
 - d) Pneumatic devices
 - e) Ratchet devices
- 10.06 Demonstrate the following evolutions, which may be required to extricate an entrapped victim of a motor vehicle crash by displacing:
- a) Vehicle roof
 - b) Vehicle door
 - c) Windshield
 - d) Steering wheel
 - e) Steering column and dashboard
- 11.0 DEMONSTRATE SAFETY PROCEDURES--The student will be able to:
- 11.01 Identify dangerous building conditions created by fire.
- 11.02 Demonstrate techniques for action when trapped or disoriented in a fire situation or a hostile environment.
- 11.03 Explain hazards related to electrical emergencies.
- 11.04 Demonstrate use of portable power plants, lights, cords, connectors, and ground fault interrupters (GFI).
- 11.05 Describe the responsibilities of a firefighter as required by NFPA 1500.
- 11.06 Demonstrate the procedures for shutting off the gas services to a building.

- 11.07 Demonstrate the procedures for shutting off electrical service to a building.
- 11.08 Describe the elements of a personal accountability system and demonstrate the application of the system at an incident.
- 11.09 Demonstrate the use of seat belts, noise barriers, and other safety equipment provided for protection while riding the apparatus.
- 11.10 Demonstrate safety procedures when mounting, dismounting, and operating around fire apparatus.
- 11.11 Identify a minimum of three common types of accidents or injuries, and their causes, that occur in the following locations:
 - a) Fire ground
 - b) Responding and returning
 - c) Training
 - d) Non-fire emergencies
 - e) Other on-duty locations
- 11.12 Identify safety procedures for ensuring a safe station/facility environment.
- 11.13 Identify potential long-term consequences of exposure to products of combustion.

12.0 USE LADDERS--The student will be able to:

- 12.01 Identify and describe the use of the following types of ladders
 - a) Folding/attic
 - b) Roof
 - c) straight/wall
 - e) Aerial ladders
- 12.02 Raise, position, and lower the following types of ground ladders:
 - a) 14 ft. single or wall ladder
 - b) 24 ft. extension ladder
 - c) 35 ft. extension ladder
 - d) Attic/folding ladder
- 12.03 Demonstrate the deployment of a roof ladder on a pitched roof.
- 12.04 Climb the full length of each type of ground (and aerial, if available) ladder carrying fire fighting tools or equipment while ascending and descending.
- 12.05 Climb the full length of each type of ground (and aerial, if available) ladder and bring an "injured person" down the ladder.
- 12.06 Demonstrate the techniques of working from ground or aerial ladders with tools and appliances, with and without a safety harness.
- 12.07 Demonstrate the techniques of cleaning, inspecting and maintaining ladders.

13.0 USE FIRE HOSE, NOZZLES, AND APPLIANCES--The student will be able to:

- 13.01 Identify the sizes, types, amounts, and use of hose as required to be carried on a pumper according to NFPA 1901.
- 13.02 Demonstrate the use of all nozzles, hose adapters, and hose appliances as required to be carried on a pumper according to NFPA 1901.

- 13.03 When given the necessary equipment and operating as an individual and as a member of a team, advance dry hose lines of two different sizes, both of which shall be 1 1/2 inch or larger, from a pumper:
- a) Into a structure
 - b) Up a ladder to a second floor landing
 - c) Up an inside stairway to an upper floor
 - d) Up an outside stairway to an upper floor
 - e) Down an inside stairway to a lower floor
 - f) Down an outside stairway to a lower floor
 - g) To an upper floor by hoisting.
- 13.04 When given the necessary equipment and operating as a member of a team, advance charged attack lines of two different sizes, both which shall be 1 1/2 inch or larger, from a pumper:
- a) Into a structure
 - b) Up a ladder to a second floor landing
 - c) Up an outside stairway to an upper floor
 - d) Up an inside stairway to an upper floor
 - e) Down an inside stairway to a lower floor
 - f) Down an outside stairway to a lower floor
 - g) To an upper floor by hoisting.
- 13.05 Demonstrate the techniques for cleaning fire hose, couplings, and nozzles; and inspecting for damage.
- 13.06 Demonstrate at least 3 different types of hose loads and finishes.
- 13.07 Demonstrate three types of hose rolls.
- 13.08 Demonstrate two types of hose carries.
- 13.09 Demonstrate coupling and uncoupling of fire hose.
- 13.10 Work from a ground ladder with a charged attack line, which shall be 1 1/2 inch or larger.
- 13.11 Demonstrate the methods for extending a hose line.
- 13.12 Demonstrate replacing a burst section of hose line.
- 13.13 Demonstrate a hand lay of 300 feet (90 m) of supply line 1 1/2 inch (65 mm) or larger from a pumper to a water source.
- 14.0 USE FIRE STREAMS--The student will be able to:
- 14.01 Define a fire stream.
 - 14.02 Demonstrate how to open and close a nozzle and how to adjust its stream pattern and flow setting, when applicable.
 - 14.03 Define water hammer and at least one method for its prevention.
 - 14.04 Define the following methods of water application:
 - a) Direct
 - b) Indirect
 - c) Combination
 - 14.05 Identify precautions to be followed while advancing hose lines to a fire.
 - 14.06 Describe three observable results that are obtained when the proper application of a fire stream is accomplished.
 - 14.07 Assemble and operate a foam fire stream arrangement given the appropriate equipment.
 - 14.08 Demonstrate the methods for applying foam.
- 15.0 USE WATER SUPPLIES--The student will be able to:
- 15.01 Identify the water distribution system, and other water sources in the local community.
 - 15.02 Identify the following parts of a water distribution system:

- a) Distributors
 - b) Primary feeders
 - c) Secondary feeders
- 15.03 Explain the operation of a:
- a) dry-barrel hydrant
 - b) wet-barrel hydrant
- 15.04 Define the following:
- a) Normal operating pressure of a water distribution system
 - b) Residual pressure of a water distribution system
 - c) Flow pressure and d) static pressure
- 15.05 Identify the following types of main water valves:
- a) Indicating
 - b) non-indicating
 - c) Post indicator
 - d) Outside screw and yoke
- 15.06 Describe how the following conditions reduce hydrant effectiveness:
- a) Obstructions to use of hydrant
 - b) Direction of hydrant outlets to suitability of use
 - c) Mechanical damage
 - d) Rust and corrosion
 - e) Failure to open the hydrant fully
 - f) Ability to drain
- 15.07 Identify the apparatus, equipment, and appliances required to provide water at rural locations by relay pumping, large diameter hose, or a tanker shuttle.
- 15.08 Identify and explain the four (4) fundamental components of a modern water system.
- 15.09 Demonstrate deployment of a portable water tank.
- 15.10 Connect a supply hose to a hydrant, and fully open and close the hydrant.
- 15.11 Demonstrate the hydrant to pumper hose connections for forward and reverse lays.
- 15.12 Assemble and connect the equipment necessary for drafting from a static water supply source.
- 15.13 Demonstrate the assemblage of equipment necessary for the transfer of water between portable water tanks.
- 15.14 Describe the loading and off-loading of tanks on mobile water supply apparatus.
- 15.15 Identify the pipe sizes used in water distribution systems for residential, business, and industrial districts.
- 15.16 Identify two causes of increased resistance or friction loss in water mains.
- 16.0 USE PRIVATE FIRE PROTECTION SYSTEMS--The student will be able to:
- 16.01 Identify a fire department sprinkler connection and water motor alarm.
 - 16.02 Connect hose line(s) to a fire department connection of a sprinkler or standpipe system.
 - 16.03 Define how the automatic sprinkler heads open and release water.
 - 16.04 Temporarily stop the flow of water from a sprinkler head using a wedge, tong, or stopper.
 - 16.05 Define the value of automatic sprinklers in providing safety to the occupants in a structure.

- 16.06 Demonstrate carrying a 100 ft. attack line, 1 1/2" or larger, into a building, connecting it to a standpipe, and advancing from a standpipe.
 - 16.07 Identify the "Main Control" valve on an automatic sprinkler system.
 - 16.08 Operate a main control valve on an automatic sprinkler system from "open" to "closed" and then back to "open".
- 17.0 DEMONSTRATE SALVAGE PROCEDURES--The student will be able to:
- 17.01 Identify the purpose of salvage and its value to the public and the fire department.
 - 17.02 Demonstrate the removal of debris, and the removal and routing of water from a structure.
 - 17.03 Demonstrate the covering or closing of openings made during fire fighting operations.
- 18.0 DEMONSTRATE OVERHAUL PROCEDURES--The student will be able to:
- 18.01 Identify the purpose of overhaul.
 - 18.02 Recognize at least four (4) indicators of hidden fires.
 - 18.03 Demonstrate searching for hidden fires.
 - 18.04 Demonstrate how to separate and remove charred material from unburned material.
 - 18.05 Demonstrate exposure of hidden fires by opening ceilings, walls, floors, and pulling apart burned materials.
 - 18.06 Define duties of fire fighters left at the fire scene for fire and security surveillance.
- 19.0 DEMONSTRATE KNOWLEDGE OF THE FUNDAMENTALS OF EXTINGUISHMENT--The student will be able to:
- 19.01 Describe the tactics employed to fight wildland fires.
- 20.0 DEMONSTRATE KNOWLEDGE OF THE EFFECTS OF BUILDING CONSTRUCTION ON FIRE FIGHTING--The student will be able to:
- 20.01 Describe the basic structural characteristics of the following types of building construction:
 - a) Wood frame
 - b) Ordinary
 - c) Heavy timber
 - d) Noncombustible
 - e) Fire resistant
 - 20.02 Identify the general fire behavior expected with each type of building construction, including the spread of fire and the safety of the building, occupants, and firefighters.
 - 20.03 Describe at least three hazards associated with truss and lightweight construction.
 - 20.04 Identify dangerous building conditions created by fire and fire suppression activities.
 - 20.05 Identify five indicators of building collapse.
 - 20.06 Describe the effects of fire and fire fighting activities on the following building materials:
 - a) Wood
 - b) Masonry
 - c) Cast iron
 - d) Steel
 - e) Gypsum wallboard
 - f) Reinforced concrete

- g) Glass
 - h) Plaster on lath
- 20.07 Define the following terms as they relate to building construction:
- a) Load bearing
 - b) Partition wall
 - c) Veneer wall (exterior)
 - d) Party wall
 - e) Fire wall
 - f) Cantilever wall
- 21.0 PARTICIPATE IN CONTROLLED BURNING EXERCISES--The student will be able to:
- 21.01 Using the appropriate protective equipment, tools, and agents, extinguish a Class A fire inside of a structure.
 - 21.02 Using the appropriate protective equipment, tools, and agents, extinguish an exterior Class A fire.
 - 21.03 Using the appropriate protective equipment, tools, and agents, extinguish an exterior open pan of a Class B liquid.
 - 21.04 Using the appropriate protective equipment, tools, and agents, extinguish a vehicle fire.
 - 21.05 Using the appropriate protective equipment, tools and agents, extinguish a storage container (exterior dumpster/trash bin) fire.
- 22.0 SEXUALLY TRANSMITTED DISEASES/EMERGENCY MEDICAL CARE--The student will be able to:
- 22.01 Apply infection control techniques designed to prevent the spread of sexually transmitted diseases to the care of all patients following Centers for Disease Control (CDC) guidelines.
- 23.0 DEMONSTRATE PROFICIENCY IN FIRST RESPONDER TO MEDICAL EMERGENCIES TECHNIQUES--The student will be able to:
- 23.01 Conduct a primary assessment of problems that are a threat to life if not corrected immediately.
 - 23.02 Demonstrate the use, decontamination, disinfection, and disposal of personal protective equipment used for protection from infection.
 - 23.03 Perform the following procedures as defined in the Journal of the American Medical Association, "Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC)":
 - a) Single-rescuer CPR
 - 1. Adult
 - 2. Child
 - 3. Infant
 - b) Two-rescuer CPR on an adult
 - c) Management of an obstructed airway
 - 1. Conscious and unconscious adult
 - 2. Conscious and unconscious child
 - 3. Conscious and unconscious infant
 - 23.04 Demonstrate the use of a resuscitation mask in the performance of single- and two-rescuer CPR.
 - 23.05 Identify three (3) types of external bleeding and the characteristics of each type.

- 23.06 Demonstrate three (3) procedures for controlling external bleeding.
 - 23.07 Identify characteristics and emergency medical care of thermal burns according to degree and severity.
 - 23.08 Identify the emergency medical care for chemical burns, including chemical burns of the eyes.
 - 23.09 Identify the symptoms and demonstrate emergency medical care of traumatic shock.
 - 23.10 Identify the symptoms and demonstrate emergency medical care for ingested poisons and drug overdoses.
 - 23.11 Identify the method of contacting the poison control center that serves the local jurisdiction.
- 24.0 DETECT THE PRESENCE OF HAZARDOUS MATERIALS--The student will be able to:
- 24.01 Define hazardous materials.
 - 24.02 Identify the Department of Transportation (DOT) hazard classes and divisions of hazardous materials and common examples of materials in each hazard class or division.
 - 24.03 Identify the primary hazards associated with each of the DOT hazard classes and divisions of hazardous materials by hazard class or division.
 - 24.04 Identify the difference between hazardous materials incidents and other emergencies.
 - 24.05 Identify typical occupancies and locations in the community where hazardous materials are manufactured, transported, stored, used or disposed of.
 - 24.06 Identify typical container shapes that can indicate hazardous materials.
 - 24.07 Identify facility and transportation markings and colors that indicate hazardous materials, including the following:
 - a) UN/NA identification numbers
 - b) NFPA 704 markings
 - c) Military hazardous materials markings
 - d) Special hazard communication markings
 - e) Pipeline markings
 - f) Container markings
 - 24.08 Given an NFPA 704 marking, describe the significance of the colors, numbers, and special symbols.
 - 24.09 Identify U.S. and Canadian placards and labels that indicate hazardous materials.
 - 24.10 Identify the basic information on material safety data sheets (MSDS) and shipping papers that indicates hazardous materials.
 - 24.12 Match the name of the shipping papers found in transportation (air, highway, rail, and water) with the mode of transportation.
 - 24.13 Identify examples of clues (other than occupancy/location, container shape, markings/color, placards/labels, MSDS, and shipping papers) that use the senses of sight, sound and odor to indicate hazardous materials.
 - 24.14 Describe the limitation of using the senses in determining the presence or absence of hazardous materials.
- 25.0 COLLECT HAZARDOUS MATERIALS--The student will be able to:
- 25.01 Identify the three methods for determining the appropriate guide page for a hazardous material.

25.02 Identify the two general types of hazards found on each guide page.

26.0 INITIATE PROTECTIVE ACTION--The student will be able to:

26.01 Identify the location of both the local emergency response plan and the organization's standard operating procedures.

26.02 Identify the role of the first responder at the awareness level during a hazardous materials incident.

26.03 Identify the basic precautions to be taken to protect themselves and others in a hazardous materials incident.

26.04 Identify the precautions necessary when providing emergency medical care to victims of hazardous materials incidents.

26.05 Identify typical ignition sources found at the scenes of hazardous materials incidents.

26.06 Identify the ways hazardous materials are harmful to people, the environment, and property at hazardous materials incidents.

26.07 Identify the general routes of entry for human exposure to hazardous materials.

26.08 Given the identify of various hazardous materials (name, UN/NA identification number, or type placard), identify the following response information:

a) Emergency action (fire, spill, or leak and first aid)

b) Personal protective equipment necessary

c) Initial isolation and protective action distances

26.09 Given the name of a hazardous material, identify the recommended personal protective equipment from the following list:

a) Street clothing and work uniforms

b) Structural fire-fighting protective clothing

c) Positive pressure self-contained breathing apparatus

d) Chemical-protective clothing and equipment

26.10 Identify the definitions for each of the following protective actions:

a) Isolation of the hazard area and denial of entry

b) Evacuation

c) Sheltering in-place protection

26.11 Identify the shapes of recommended initial isolation and protective action zones.

26.12 Describe the difference between small and large spills as found in the table of Initial Isolation and Protective Action Distances.

26.13 Identify the circumstances under which the following distances are used at a hazardous material incident:

a) Table of initial isolation and protective action distance

b) Isolation distances in the numbered guides

26.14 Describe the difference between the isolation distances in the orange-bordered guide pages and the protective action distances in the green-bordered pages in the document.

26.15 Identify the techniques used to isolate the hazard area and deny entry to unauthorized persons at hazardous materials incidents.

27.0 INITIATE THE NOTIFICATION PROCESS--The student will be able to:

27.01 Given either a facility or transportation scenario involving hazardous materials, identify the appropriate initial notifications to be made and how to make them, consistent with the local emergency response plan or the organization's standard operating procedures.

28.0 FIRE PREVENTION, PUBLIC FIRE EDUCATION, AND FIRE CAUSE DETERMINATION--The student will be able to:

28.01 Identify five (5) common causes of fires and their prevention.

28.02 Define the importance of inspection and public fire education programs to fire department public relations and the community.

28.03 Demonstrate inspection procedures for private dwellings.

28.04 Present a prepared program to an identified audience, given a lesson plan, time allotment, and instructional materials for the following topics:

- a) Stop, drop and roll
- b) Crawl low in smoke
- c) Escape planning
- d) Alerting others
- e) Calling the fire department
- f) Fire station tour
- g) Residential smoke detector placement and maintenance

28.05 Document the presentation of a program covered in 28.04, given a reporting form that includes:

- a) Program title
- b) Number of participants
- c) Evaluations

OCCUPATIONAL COMPLETION POINT - DATA CODE B

FIRE FIGHTER II - SOC 33-2011

29.0 USE FIRE ALARMS AND COMMUNICATIONS EQUIPMENT--The student will be able to:

29.01 Identify fire location indicators provided to direct fire fighters to specific locations in protected public or private properties.

29.02 Identify supervisory alarm equipment provided in the fire station and prescribed action to be taken upon receipt of designated signals.

29.03 Define the policy and demonstrate the procedure of ordering and transmitting multiple alarms of fire and calls for special assistance from the emergency scene.

30.0 USE SELF-CONTAINED BREATHING APPARATUS--The student will be able to:

30.01 Demonstrate the use of SCBA in conditions of restricted passage.

30.02 Demonstrate the use of SCBA in conditions of obscured visibility.

30.03 Demonstrate techniques for maximizing the air capacity of an SCBA under work conditions.

30.04 Demonstrate the replacement of an expended cylinder of an SCBA assembly with a full cylinder in the staging area of a simulated high-rise fire.

- 30.05 Demonstrate the following emergency procedures to be used in the event of SCBA failure: a) use of emergency by-pass or purge valve, b) conservation of air, and c) breathing from the breathing tube or regulator in the event of a face piece failure.
- 31.0 DEMONSTRATE VENTILATION PRACTICES--The student will be able to:
- 31.01 Describe the use of different types of power saws and jack hammers.
 - 31.02 Identify the different types of roofs, demonstrate the techniques used to ventilate each type, and identify the necessary precautions.
 - 31.03 Identify the manual and automatic venting devices found within structures.
 - 31.04 Describe the operations and considerations necessary to control the spread of smoke and fire through duct systems, including: a) determining location and routing of ducts, b) shutting down systems to prevent spread of heat and smoke, c) checking false ceilings or framing enclosing duct systems, d) examining duct system after ventilation, e) checking duct system outlets, and f) determining if duct system has openings, smoke dampers, or smoke detectors.
 - 31.05 Identify considerations that must be made when determining the size and location of a ventilation opening, including: a) availability of natural openings, b) location of fire, c) direction fire will be drawn, d) type of building construction, e) wind direction, f) progress of fire, g) condition of building, h) obstructions, and i) relative efficiency of large openings versus small openings.
 - 31.06 Identify the location of an opening and the precautions to be taken when ventilating a basement.
 - 31.07 Describe fire ground situations where forced ventilation procedures may be required.
 - 31.08 Demonstrate the ventilation of a flat and pitched roof using both hands and power tools.
- 32.0 USE ROPES, TOOLS, AND EQUIPMENT--The student will be able to:
- 32.01 Select an appropriate knot, when given a fire fighting or rescue task requiring the use of rope.
- 33.0 DEMONSTRATE RESCUE PROCEDURES--The student will be able to:
- 33.01 Describe the techniques and safety procedures as they relate to the following rescue activities: a) structural collapses, b) trench collapses, c) caves and tunnels, d) water and ice emergencies, e) emergencies involving energized electrical lines, and f) industrial hazards.
 - 33.02 Demonstrate the techniques and safety procedures to be followed when given simulated rescue situations, which will include the following scenarios: a) search and rescue of victim(s) from a residential structure, b) search of large interior areas, i.e., stores, warehouses, basements maintenance bays, etc., c) rescue of entrapped firefighter, d) search and rescue in areas of restricted passage, and e) search and rescue of victim(s) in a multi-story building.
 - 33.03 Tie a standard rescue knot on a victim and lower a person from a third-floor level.

- 33.04 Identify safety procedures used during elevator and escalator rescue operations.
 - 33.05 Don a life safety harness that meets the requirements of NFPA 1983.
 - 33.06 Inspect a life safety harness and identify the conditions that would require its removal from service.
- 34.0 DEMONSTRATE SAFETY PROCEDURES--The student will be able to:
- 34.01 Demonstrate the service and maintenance of portable power plants and lighting equipment.
 - 34.02 Describe the function of a Rapid Intervention Team.
 - 34.03 Identify the applicable local, state/provincial, and federal laws and regulations related to occupational health and safety.
 - 34.04 Safely operate a total of twelve types of hand and power tools used for forcible entry, rescue, and ventilation.
 - 34.05 Demonstrate the techniques and safety procedures used when trapped or disoriented in a simulated scenario.
- 35.0 USE LADDERS--The student will be able to:
- 35.01 Identify the materials used in ladder construction.
 - 35.02 Identify the load safety features of all ground and aerial ladders.
 - 35.03 Demonstrate inspection and maintenance techniques for different types of ground and aerial ladders.
 - 35.04 List at least three situations that warrant a ladder be tested.
 - 35.05 Demonstrate special ladder raises; such as for raising under wires or other obstructions that do not pose a threat to the climber, but may create a problem when raising or lowering the ladder.
 - 35.06 When given a scenario requiring the use of a ladder, demonstrate choosing the appropriate ladder, ladder carry, ladder raise and placement.
 - 35.07 Operating as an individual and as a member of a team, demonstrate the following ladder carries: a) four person carry; b) five person carry; c) six person carry.
- 36.0 USE FIRE HOSE, NOZZLES, AND APPLIANCES--The student will be able to:
- 36.01 Demonstrate all hand hose lays.
 - 36.02 Select adapters and appliances to be used in a specific fire ground situation.
 - 36.03 When given three different fire scenarios, select the proper nozzle and hose for the fire attack.
 - 36.04 Demonstrate an annual service test for fire hose.
- 37.0 USE FIRE STREAMS--The student will be able to:
- 37.01 Describe the advantages, disadvantages, and intended use of the following methods of water application: a) direct; b) indirect; c) combination.
 - 37.02 Given a simulated fire situation, demonstrate each of the following methods of water application: a) direct, b) indirect, c) combination.
 - 37.03 Describe the characteristics, advantages, and disadvantages of each type of fire stream.

- 37.04 Identify four special stream nozzles and demonstrate at least two uses or applications for each.
 - 37.05 Identify and define foam-making appliances and demonstrate a foam stream from each.
 - 37.06 Identify and define those items required to develop three types of fire streams and demonstrate each.
 - 37.07 Define the four methods by which foam prevents or controls a hazard.
 - 37.08 Define common causes for the poor generation of foam and identify the procedures for correcting each.
 - 37.09 Define the principle by which foam is generated.
 - 37.10 Define the difference between hydrocarbon and polar solvents and identify the type of foam concentrate required for each fuel.
 - 37.11 Define the following terms associated with the use of foam: a) viscosity, b) drain time, c) flow rate, and d) vapor suppression.
 - 37.12 Define the advantages, characteristics, and precautions for use of the following types of foams: a) protein, b) fluoroprotein, c) film forming fluoroprotein (FFFP), d) aqueous film forming foam (AFFF), e) high expansion foam, f) Class A foam, g) medium expansion foam, and h) hazardous materials vapor mitigating foam.
 - 37.13 Define the precautions that must be taken when using high expansion foam inside of a structure.
 - 37.14 Demonstrate the ability to use the water stream to hit specific targets while maintaining proper control of the nozzle and hose line.
- 38.0 USE PRIVATE FIRE PROTECTION SYSTEMS--The student will be able to:
- 38.01 Identify the "Main Drain" valve on an automatic sprinkler system.
 - 38.02 Open and close a "Main Drain" valve on an automatic sprinkler system.
 - 38.03 Describe how the direction of water flow through a fire department connection check valve may be determined, including: a) arrows, and b) pivot casting.
 - 38.04 Operate a "Main Control" valve on an automatic sprinkler system from "open" to "closed" and then back to "open".
 - 38.05 Identify and define the dangers of premature closure of sprinkler "Main Control" valve, and of using hydrants to supply hose streams when the same water system is supplying the automatic sprinkler system.
 - 38.06 Identify the difference between an automatic sprinkler system that affords complete coverage and a partial sprinkler system.
 - 38.07 Identify at least three sources of water for supply to an automatic sprinkler system.
 - 38.08 Identify the following: a) wet sprinkler system; b) dry sprinkler system; c) deluge sprinkler system; d) residential sprinkler system.
 - 38.09 Read and record the indicated pressures on all gauges provided on the following types of systems and identify each gauge: a) wet pipe system, and b) dry pipe system.
 - 38.10 Describe the reliability of automatic sprinkler systems.
 - 38.11 List the reasons for unsatisfactory performance of automatic sprinkler systems.

- 38.12 Describe the general characteristics and uses of the following types of standpipe systems: a) Class I, b) Class II, and c) Class III.
 - 38.13 Describe the characteristics of wet standpipe systems and the different types of dry standpipe systems.
 - 38.14 Describe how to differentiate between fire department connections for standpipe and sprinkler systems.
 - 38.15 Explain when a standpipe system has pressure reducers or warnings regarding high pressure.
 - 38.16 Given a pitot tube and gauge, read and record flow pressures from at least 2 different orifices.
- 39.0 SALVAGE PROCEDURES--The student will be able to:
- 39.01 Demonstrate two folds and rolls of salvage covers as an individual and as a member of a team.
 - 39.02 Demonstrate two methods of deploying salvage covers to protect property.
 - 39.03 Demonstrate the techniques of inspection, cleaning, and maintaining salvage equipment.
 - 39.04 Demonstrate the construction of a water chute.
 - 39.05 Demonstrate the construction of a catch-all.
 - 39.06 Demonstrate the removal of salvage covers from covered property.
- 40.0 OVERHAUL PROCEDURES--The student will be able to:
- 40.01 List the procedures to follow during overhaul.
 - 40.02 Identify the safety precautions necessary during overhaul.
 - 40.03 List five indicators of structural instability.
 - 40.04 Identify the responsibilities of the firefighter in determining the point of origin, cause, and protection of evidence in fires.
 - 40.05 Identify and preserve evidence of fire cause and origin.
 - 40.06 Identify the procedures for the restoration of the premises after a fire.
 - 40.07 Complete a basic fire incident report and describe the importance of this information.
- 41.0 FOLLOW FIRE PREVENTION INSPECTION PRACTICES--The student will be able to:
- 41.01 Identify five common causes of fires and their prevention.
 - 41.02 Present a prepared program to an identified audience, given a lesson plan, time allotment, and instructional materials, for the following topics: a) stop, drop, and roll, b) crawl low in smoke, c) escape planning, d) alerting others, e) calling the fire department, f) fire station tour, and g) residential smoke detector replacement and maintenance.
 - 41.03 Define the importance of public relations relative to the inspection programs.
 - 41.04 Demonstrate inspection procedures for private dwellings.
 - 41.05 Document the presentation given in 40.02, given a reporting form that includes: a) program title, b) number of participants, c) evaluations.
 - 41.06 Identify life safety programs for the home.
 - 41.07 Prepare diagrams or sketches of buildings to record the locations of items of concern during pre-fire planning operations.

- 41.08 Collect and record in writing information required for the purpose of preparing a report on a building inspection or survey.
 - 41.09 Identify common fire hazards and make recommendations for their correction.
 - 41.10 Identify school exit drill procedures.
 - 41.11 Conduct a building fire safety survey and prepare a written report summarizing the results.
 - 41.12 Inspect fire protection standpipe systems for readiness, including a visual inspection of the following: a) hose (if provided), b) nozzles, c) outlet thread connections, and d) fire department connections.
 - 41.13 Identify smoke, heat, and flame detection alarm systems.
 - 41.14 Identify the fire hazards commonly found in the following types of occupancies: a) manufacturing, b) commercial, c) residential, and d) public assemblies.
 - 41.15 Identify standard types of chimneys and flues and recognize deficiencies likely to cause fires.
- 42.0 DEMONSTRATE KNOWLEDGE OF THE FUNDAMENTALS OF EXTINGUISHMENT--The student will be able to:
- 42.01 Identify the use and care of the specialized hand tools used for wildland fire fighting.
 - 42.02 Explain the various aspects of wildland fire management to include: a) incident command, b) cooperators' responsibilities, c) rights and duties of a wildland firefighter, and d) fire prevention.
 - 42.03 Describe the concepts of open burning and arson as provided in the Florida Fire Laws.
- 43.0 PARTICIPATE IN A PHYSICAL FITNESS PROGRAM--The student will be able to:
- 43.01 Exercise during the course of training to include: a) warm-up, b) stretching, c) strength/conditioning, d) stamina improvement, and e) cool-down.
 - 43.02 Participate in physical fitness exercises during training for a minimum of eight hours.
 - 43.03 Firefighters may be given exercises to perform outside of class hours to meet their individual needs and a record will be kept of these assigned activities.
 - 43.04 A physical ability test shall be given at an interval determined by the facility to determine weaknesses in the physical fitness program and corrective actions implemented.
- 44.0 PARTICIPATE IN CONTROLLED BURNING EXERCISES--The student will be able to:
- 44.01 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment, tools, and extinguishing agents: a fire in an elevated location within a structure (attic or upper floor).
 - 44.02 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment, tools, and extinguishing agents: a fire in a below grade area or other location that requires an initial attack from above.
 - 44.03 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment,

tools, and extinguishing agents: a fire involving (simulated) energized electrical components.

44.04 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment, tools, and extinguishing agents: a fire involving a flammable gas cylinder and or piping.

45.0 DEMONSTRATE PROPER RESPONSE TO HAZARDOUS MATERIALS INCIDENTS--The student will be able to:

45.01 List the three parts of the incident management triangle.

45.02 Define strategic goals, tactical objectives, and tactical methods.

45.03 Identify five fire fighting considerations and state their importance in determining the potential course and harm of the incident.

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Course Title: Fire Fighting 1
Course Number: 8918110
Course Credit: 1

COURSE DESCRIPTION: This course introduces students to the basic activities and principles of fire fighting.

OCCUPATIONAL COMPLETION POINT - DATA CODE A
FIRE FIGHTER I - SOC 33-2011

01.0 DEMONSTRATE KNOWLEDGE OF FIRE DEPARTMENT ORGANIZATION, PROCEDURES AND RESPONSIBILITIES--The student will be able to:

- 01.01 Describe the organization of the fire department. AT.2.1.4, AT.3.1.4, AT.5.1.4, AT.6.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.02 Explain the Firefighter I's role as a member of the organization. AT.2.3.4, AT.4.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.03 Explain the Firefighter II's role as a member of the organization. AT.2.3.4, AT.4.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.04 Explain the responsibilities of the firefighter in assuming and transferring command within an incident management system. AT.3.1.4, AT.4.1.4, AT.7.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.A.1.4
- 01.05 Explain the mission of the fire service and of the local fire department. AT.1.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.06 Explain the function of a standard operating procedure. AT.1.1.4, AT.5.1.4, AT.6.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.07 Explain the fire department rules and regulations that apply to the position of firefighter. AT.4.1.4, AT.6.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.08 Explain the basic components of incident management and the firefighter's role within the local incident management system. AT.3.1.4, AT.4.1.4, AT.7.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.A.1.4
- 01.09 Explain the role of other agencies that may respond to emergencies. AT.4.1.4, AT.7.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.10 Describe the components of a member assistance program. AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 01.10 Define the following terms: a) chain of command, b) span of control, and c) unity of command. AT.4.1.4, AT.6.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.A.1.4

02.0 USE FIRE ALARMS AND COMMUNICATIONS EQUIPMENT--The student will be able to:

- 02.01 Define the procedure for a citizen to report a fire or other emergency. AT.4.1.4, AT.5.1.4, AT.5.2.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.3.4

- 02.02 Demonstrate action taken upon receipt of an alarm or report of an emergency. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.3.4
- 02.03 Define the purpose and function of all alarm-receiving instruments and personnel-alerting equipment in the fire station. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.3.4
- 02.04 Identify procedures required for receipt and processing of business and personal calls. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.3.4
- 02.05 Define and demonstrate prescribed fire department radio procedures, including:
- a) Routine traffic
 - b) Emergency traffic
 - c) Emergency evacuation signals
- AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.3.4
- 02.06 Demonstrate both mobile and portable radio equipment. AT.4.1.4, AT.5.1.4, AT.5.2.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 03.0 DEMONSTRATE KNOWLEDGE OF FIRE BEHAVIOR--The student will be able to:
- 03.01 Define fire. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.B.1.4
- 03.02 Define the fire triangle and tetrahedron. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.C.1.4, MA.C.2.4
- 03.03 Identify two chemical, mechanical, and electrical energy heat sources. T.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.B.1.4
- 03.04 Recognize the following conditions and explain their associated hazards and appropriate actions:
- a) Incident fire
 - b) Rollover
 - c) Hot smoldering fire
 - d) Flashover
 - e) Steady state
 - f) Backdraft
- AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.2.4
- 03.05 Define the three methods of heat transfer. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.B.1.4
- 03.06 Define the three physical stages of matter in which fuels are commonly found. LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.A.1.4
- 03.07 Define the hazard of finely divided fuels as they relate to the combustion process. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.A.1.4
- 03.08 Define flash point, fire point, and ignition temperature. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.B.2.4, SC.H.2.4
- 03.09 Define concentrations of oxygen in air as it affects combustion and life safety. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.B.2.4, MA.B.3.4, SC.A.1.4
- 03.10 Identify three products of combustion commonly found in structural fires, which create a life hazard. AT.5.1.4,

- AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.2.4
- 03.11 Define the following units of heat measurement:
- a) British Thermal Unit (BTU)
 - b) Fahrenheit (°F)
 - c) Celsius (°C)
 - d) Calorie (C)
- AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.B.4.4, SC.B.1.4
- 03.12 Describe the process of thermal layering that occurs in structural fires and how to avoid disturbing the normal layering of heat. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.B.3.4, SC.B.1.4
- 04.0 USE PORTABLE FIRE EXTINGUISHERS--The student will be able to:
- 04.01 Identify the classification of types of fire as they relate to the use of portable extinguishers. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.2.4
- 04.02 Given a group of differing extinguishers, identify the appropriate extinguishers for the various classes of fire. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4
- 04.03 Define the portable extinguisher rating system. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, MA.A.1.4
- 04.04 Extinguish Class A and B fires using the appropriate portable fire extinguisher. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.H.2.4
- 22.0 SEXUALLY TRANSMITTED DISEASES/EMERGENCY MEDICAL CARE--The student will be able to:
- 22.01 Apply infection control techniques designed to prevent the spread of sexually transmitted diseases to the care of all patients following Centers for Disease Control (CDC) guidelines. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.3.4, SC.F.1.4, SC.F.2.4, HE.A.1.4
- 23.0 DEMONSTRATE PROFICIENCY IN FIRST RESPONDER TO MEDICAL EMERGENCIES TECHNIQUES--The student will be able to:
- 23.01 Conduct a primary assessment of problems that are a threat to life if not corrected immediately. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, SC.F.1.4, HE.B.1.4
- 23.02 Demonstrate the use, decontamination, disinfection, and disposal of personal protective equipment used for protection from infection.
- 23.03 Perform the following procedures as defined in the Journal of the American Medical Association, "Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC)":
- a) Single-rescuer CPR
 1. Adult
 2. Child
 3. Infant

- b) Two-rescuer CPR on an adult
 - c) Management of an obstructed airway
 - 1. Conscious and unconscious adult
 - 2. Conscious and unconscious child
 - 3. Conscious and unconscious infant
- AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, SC.F.1.4, HE.B.1.4
- 23.04 Demonstrate the use of a resuscitation mask in the performance of single- and two-rescuer CPR. AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, SC.F.1.4, HE.B.1.4
- 23.05 Identify three (3) types of external bleeding and the characteristics of each type. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, SC.F.1.4, HE.B.1.4
- 23.06 Demonstrate three (3) procedures for controlling external bleeding. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, SC.F.1.4, HE.B.1.4
- 23.07 Identify characteristics and emergency medical care of thermal burns according to degree and severity. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, HE.B.1.4
- 23.08 Identify the emergency medical care for chemical burns, including chemical burns of the eyes. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, HE.B.1.4
- 23.09 Identify the symptoms and demonstrate emergency medical care of traumatic shock. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, HE.B.1.4
- 23.10 Identify the symptoms and demonstrate emergency medical care for ingested poisons and drug overdoses. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, HE.B.1.4
- 23.11 Identify the method of contacting the poison control center that serves the local jurisdiction. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, HE.B.1.4
- 24.0 DETECT THE PRESENCE OF HAZARDOUS MATERIALS--The student will be able to:
- 24.01 Define hazardous materials. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4
- 24.02 Identify the Department of Transportation (DOT) hazard classes and divisions of hazardous materials and common examples of materials in each hazard class or division. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.B.1.4, SC.B.2.4
- 24.03 Identify the primary hazards associated with each of the DOT hazard classes and divisions of hazardous materials by hazard class or division. AT.1.1.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SS.B.2.4
- 24.04 Identify the difference between hazardous materials incidents and other emergencies. AT.1.1.4, AT.5.1.4,

- AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 24.05 Identify typical occupancies and locations in the community where hazardous materials are manufactured, transported, stored, used or disposed of. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.F.1.4
- 24.06 Identify typical container shapes that can indicate hazardous materials. AT.1.1.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 24.07 Identify facility and transportation markings and colors that indicate hazardous materials, including the following:
- a) UN/NA identification numbers
 - b) NFPA 704 markings
 - c) Military hazardous materials markings
 - d) Special hazard communication markings
 - e) Pipeline markings
 - f) Container markings
- AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.B.1.4, SC.B.2.4, SC.F.1.4
- 24.08 Given an NFPA 704 marking, describe the significance of the colors, numbers, and special symbols. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.B.1.4, SC.B.2.4, SC.F.1.4
- 24.09 Identify U.S. and Canadian placards and labels that indicate hazardous materials. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.B.1.4, SC.B.2.4, SC.F.1.4
- 24.10 Identify the basic information on material safety data sheets (MSDS) and shipping papers that indicates hazardous materials. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.B.1.4, SC.B.2.4, SC.F.1.4
- 24.12 Match the name of the shipping papers found in transportation (air, highway, rail, and water) with the mode of transportation. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.B.1.4, SC.B.2.4, SC.F.1.4
- 24.13 Identify examples of clues (other than occupancy/location, container shape, markings/color, placards/labels, MSDS, and shipping papers) that use the senses of sight, sound and odor to indicate hazardous materials. AT.1.1.4, AT.5.1.4, AT.5.2.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.B.1.4, SC.B.2.4, SC.F.1.4
- 24.14 Describe the limitation of using the senses in determining the presence or absence of hazardous materials.
- 41.0 FOLLOW FIRE PREVENTION INSPECTION PRACTICES--The student will be able to:
- 41.01 Identify five common causes of fires and their prevention. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, SC.A.1.4
- 41.02 Present a prepared program to an identified audience, given a lesson plan, time allotment, and instructional materials, for the following topics: a) stop, drop, and roll, b) crawl

- low in smoke, c) escape planning, d) alerting others, e) calling the fire department, f) fire station tour, and g) residential smoke detector replacement and maintenance. AT.1.1.4, AT.2.2.4, AT.5.1.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, PE.A.3.4
- 41.03 Define the importance of public relations relative to the inspection programs. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, SS.D.2.4
- 41.04 Demonstrate inspection procedures for private dwellings. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4
- 41.05 Document the presentation given in 40.02, given a reporting form that includes: a) program title, b) number of participants, c) evaluations. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, MA.A.1.4
- 41.06 Identify life safety programs for the home. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, SS.D.2.4, HE.B.1.4, HE.C.2.4
- 41.07 Prepare diagrams or sketches of buildings to record the locations of items of concern during pre-fire planning operations. AT.1.1.4, AT.2.2.4, AT.5.1.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, MA.C.1.4
- 41.08 Collect and record in writing information required for the purpose of preparing a report on a building inspection or survey. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4
- 41.09 Identify common fire hazards and make recommendations for their correction. AT.1.1.4, AT.2.2.4, AT.5.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, SC.A.1.4,
- 41.10 Identify school exit drill procedures. AT.1.1.4, AT.2.2.4, AT.4.1.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, SS.D.2.4
- 41.11 Conduct a building fire safety survey and prepare a written report summarizing the results. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.1.1.4, AT.2.2.4, AT.5.2.4, AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4
- 41.12 Inspect fire protection standpipe systems for readiness, including a visual inspection of the following: a) hose (if provided), b) nozzles, c) outlet thread connections, and d) fire department connections. AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.1.1.4, AT.2.2.4, AT.5.2.4, AT.6.1.4, AT.7.1.4,

- AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4,
LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4
- 41.13 Identify smoke, heat, and flame detection alarm systems.
AT.1.1.4, AT.2.2.4, AT.6.1.4, AT.1.1.4, AT.2.2.4, AT.5.2.4,
AT.6.1.4, AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4,
LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4,
LA.D.2.4
- 41.14 Identify the fire hazards commonly found in the following
types of occupancies: a) manufacturing, b) commercial,
c) residential, and d) public assemblies. AT.1.1.4,
AT.2.2.4, AT.6.1.4, AT.1.1.4, AT.2.2.4, AT.5.2.4, AT.6.1.4,
AT.7.1.4, AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4,
LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4
- 41.15 Identify standard types of chimneys and flues and recognize
deficiencies likely to cause fires. AT.1.1.4, AT.2.2.4,
AT.6.1.4, AT.1.1.4, AT.2.2.4, AT.5.2.4, AT.6.1.4, AT.7.1.4,
AT.8.1.4, AT.9.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4,
LA.C.1.4, LA.C.2.4, LA.C.3.4, LA.D.1.4, LA.D.2.4, SC.A.1.4

**Florida Department of Education
STUDENT PERFORMANCE STANDARDS**

Course Title: Fire Fighting 2
Course Number: 8918120
Course Credit: 1

COURSE DESCRIPTION: This course allows students to develop the basic skills in using fire fighting tools and equipment.

05.0 PERSONAL PROTECTIVE EQUIPMENT--The student will be able to:

- 05.01 Demonstrate the use of self-contained breathing apparatus (SCBA) in conditions of obscured visibility. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.3.4
- 05.02 Identify the physical requirements of the wearer of the SCBA. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.3.4
- 05.03 Identify the limitations of the SCBA. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.3.4
- 05.04 Identify the safety features of all types of self-contained breathing apparatus. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 05.05 Demonstrate the function of each component of the SCBA. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.D.2.4, SC.F.2.4
- 05.06 Demonstrate that the SCBA is in a safe condition for immediate use. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.3.4
- 05.07 Demonstrate and document routine maintenance for SCBA including inspection, cleaning and sanitizing. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.D.2.4, SC.F.2.4
- 05.08 Demonstrate the use of SCBA in conditions of restricted space. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 05.09 Demonstrate the following emergency techniques to be used in the event of SCBA failure:
 - a) Use of emergency bypass or purge-valve
 - b) Conservation of air
 - c) Breathing from the breathing tube or regulator in the event of a face piece failure
AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 05.10 Demonstrate techniques for maximizing the air capacity of an SCBA under work conditions. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.A.1.4
- 05.11 Demonstrate the replacement of an expended cylinder of an SCBA assembly with a full cylinder. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4

- 05.12 Identify each of the following articles of protective equipment and describe their uses and limitations:
- a) Helmet (with shield)
 - b) Hood
 - c) Boots
 - d) Gloves
 - e) Turnout or bunker coat
 - f) Turnout or bunker pants
 - g) SCBA
 - h) Personal alert safety system (PASS)
 - i) Eye protection
- AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 05.13 Describe and demonstrate the care, inspection, and maintenance of each of the above items of protective equipment. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 05.14 Demonstrate the donning and doffing of the personal protective equipment listed in 5.12. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
- 05.15 Identify the hazardous environments requiring the use of respiratory protection.
- 05.16 Demonstrate donning self-contained breathing apparatus while wearing protective clothing. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
- 05.17 Demonstrate rescue procedures for the following, without compromising the rescuer's respiratory protection:
- a) A firefighter with functioning respiratory protection
 - b) A firefighter without functioning respiratory protection
 - c) A civilian without respiratory protection
- AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4

06.0 DEMONSTRATE KNOWLEDGE OF FIRE APPARATUS--The student will be able to:

- 06.01 Identify the function of the following:
- a) Engine company
 - b) Truck company
 - c) Rescue/Squad company
- AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 06.02 Describe the functions of the following units:
- a) Pumper/Engine
 - b) Aerial Apparatus
 - c) Mobile Water Supply Apparatus/Tanker
 - d) Wildland Fire Apparatus
 - e) ARFF - Aircraft Rescue and Fire Fighting
- AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 06.03 Identify special equipment used in the following apparatus:
- a) Rescue
 - b) Chemical
 - c) Floodlight and power
 - d) Air truck

AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4,
LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4

09.0 USE ROPES, TOOLS, AND EQUIPMENT--The student will be able to:

09.01 When given the proper size and amount of rope, demonstrate tying a:

- a) Bowline knot
- b) Clove hitch
- c) Figure of eight on a bight
- d) Figure of eight follow-through
- e) Figure of eight stopper knot
- f) Chimney hitch
- g) Becket or sheet bend
- h) Girth hitch
- i) Overhand safety knot

AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4,
LA.C.1.4, LA.C.2.4, LA.C.3.4

09.02 Using an approved knot, hoist any selected forcible entry tool, ground ladder, or appliance to a height of at least 20 feet (6m). AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.1.4, SC.C.2.4

09.03 Demonstrate the techniques of inspecting, cleaning, maintaining, and storing rope. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4

09.04 Use a rope to tie ladders, hose, and other equipment so as to secure them to immovable objects. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4

09.05 Identify the reasons for placing a rope out of service. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4

09.06 Distinguish between life safety and utility ropes. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4

11.0 DEMONSTRATE SAFETY PROCEDURES--The student will be able to:

11.01 Identify dangerous building conditions created by fire. AT.2.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.B.2.4, SC.C.2.4

11.02 Demonstrate techniques for action when trapped or disoriented in a fire situation or a hostile environment. AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4

11.03 Explain hazards related to electrical emergencies. AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.B.1.4, SC.B.2.4

11.04 Demonstrate use of portable power plants, lights, cords, connectors, and ground fault interrupters (GFI). AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4

11.05 Describe the responsibilities of a firefighter as required by NFPA 1500. AT.4.1.4, AT.6.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SS.C.1.4

11.06 Demonstrate the procedures for shutting off the gas service to a building. AT.2.2.4, AT.4.1.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4

- 11.07 Demonstrate the procedures for shutting off electrical service to a building. AT.2.2.4, AT.4.1.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4
- 11.08 Describe the elements of a personal accountability system and demonstrate the application of the system at an incident. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4
- 11.09 Demonstrate the use of seat belts, noise barriers, and other safety equipment provided for protection while riding the apparatus. AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, HE.B.1.4
- 11.10 Demonstrate safety procedures when mounting, dismounting, and operating around fire apparatus. AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4
- 11.11 Identify a minimum of three common types of accidents or injuries, and their causes that occur in the following locations:
 - a) Fire ground
 - b) Responding and returning
 - c) Training
 - d) Non-fire emergencies
 - e) Other on-duty locations
 AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.H.2.4
- 11.12 Identify safety procedures for ensuring a safe station/facility environment. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.F.2.4, HE.B.1.4
- 11.13 Identify potential long-term consequences of exposure to products of combustion. AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.B.2.4, SC.F.1.4, SS.B.2.4, HE.B.1.4

12.0 USE LADDERS--The student will be able to:

- 12.01 Identify and describe the use of the following types of ladders:
 - a) Folding/attic
 - b) Roof
 - c) Straight/wall
 - d) Aerial ladders
 AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.C.1.4
- 12.02 Raise, position, and lower the following types of ground ladders:
 - a) 14 ft. single or wall ladder
 - b) 24 ft. extension ladder
 - c) 35 ft. extension ladder
 - d) Attic/folding ladder
 AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, MA.B.1.4, MA.C.2.4, SC.C.1.4, SC.C.2.4
- 12.03 Demonstrate the deployment of a roof ladder on a pitched roof. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, MA.B.1.4, MA.C.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 12.04 Climb the full length of each type of ground (and aerial, if available) ladder carrying fire fighting tools or equipment while ascending and descending. AT.4.1.4, AT.8.1.4,

- LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 12.05 Climb the full length of each type of ground (and aerial, if available) ladder and bring an "injured person" down the ladder. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 12.06 Demonstrate the techniques of working from ground or aerial ladders with tools and appliances, with and without a safety harness. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.C.1.4, SC.C.2.4
- 12.07 Demonstrate the techniques of cleaning, inspecting and maintaining ladders. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, SC.C.1.4
- 13.0 USE FIRE HOSE, NOZZLES, AND APPLIANCES--The student will be able to:
- 13.01 Identify the sizes, types, amounts, and use of hose as required to be carried on a pumper according to NFPA 1901. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SS.C.1.4, SS.D.2.4
- 13.02 Demonstrate the use of all nozzles, hose adapters, and hose appliances as required to be carried on a pumper according to NFPA 1901. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SS.C.1.4, SS.D.2.4, PE.A.2.4
- 13.03 When given the necessary equipment and operating as an individual and as a member of a team, advance dry hose lines of two different sizes, both of which shall be 1 1/2 inch or larger, from a pumper:
- a) Into a structure
 - b) Up a ladder to a second floor landing
 - c) Up an inside stairway to an upper floor
 - d) Up an outside stairway to an upper floor
 - e) Down an inside stairway to a lower floor
 - f) Down an outside stairway to a lower floor
 - g) To an upper floor by hoisting
- AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.A.4.4, MA.A.5.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 13.04 When given the necessary equipment and operating as a member of a team, advance charged attack lines of two different sizes, both of which shall be 1 1/2 inch or larger, from a pumper:
- a) Into a structure
 - b) Up a ladder to a second floor landing
 - c) Up an outside stairway to an upper floor
 - d) Up an inside stairway to an upper floor
 - e) Down an inside stairway to a lower floor
 - f) Down an outside stairway to a lower floor
 - g) To an upper floor by hoisting
- AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.A.4.4, MA.A.5.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 13.05 Demonstrate the techniques for cleaning fire hose, couplings, and nozzles; and inspecting for damage. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4

- 13.06 Demonstrate at least 3 different types of hose loads and finishes. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
- 13.07 Demonstrate three types of hose rolls. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
- 13.08 Demonstrate two types of hose carries. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 13.09 Demonstrate coupling and uncoupling of fire hose. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 13.10 Work from a ground ladder with a charged attack line, which shall be 1 1/2 inch or larger. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 13.11 Demonstrate the methods for extending a hose line. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 13.12 Demonstrate replacing a burst section of hose line. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 13.13 Demonstrate a hand lay of 300 ft. (90m) of supply line 2-1/2 in. (65 mm) or larger from a pumper to a water source. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.C.1.4, SC.C.2.4, PE.A.2.4

14.0 USE FIRE STREAMS--The student will be able to:

- 14.01 Define a fire stream. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.1.4, SC.C.1.4, SC.C.2.4
- 14.02 Demonstrate how to open and close a nozzle and how to adjust its stream pattern and flow setting, when applicable. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.C.2.4, SC.B.1.4, SC.C.1.4, SC.C.2.4
- 14.03 Define water hammer and at least one method for its prevention. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.1.4, SC.C.1.4, SC.C.2.4
- 14.04 Define the following methods of water application:
 - a) Direct
 - b) Indirect
 - c) Combination
 AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.1.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 14.05 Identify precautions to be followed while advancing hose lines to a fire. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.1.4, SC.C.1.4, SC.C.2.4
- 14.06 Describe three observable results that are obtained when the proper application of a fire stream is accomplished. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.1.4, SC.C.1.4, SC.C.2.4

- 14.07 Assemble and operate a foam fire stream arrangement given the appropriate equipment. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.1.4, SC.C.1.4, SC.C.2.4
- 14.08 Demonstrate the methods for applying foam. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.1.4, SC.C.1.4, SC.C.2.4, PE.A.2.4

15.0 USE WATER SUPPLIES--The student will be able to:

- 15.01 Identify the water distribution system, and other water sources in the local community. AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SS.B.2.4
- 15.02 Identify the following parts of a water distribution system:
 a) Distributors
 b) Primary feeders
 c) Secondary feeders
 AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 15.03 Explain the operation of a:
 a) Dry-barrel hydrant
 b) Wet-barrel hydrant
 AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 15.04 Define the following:
 a) Normal operating pressure of a water distribution system
 b) Residual pressure of a water distribution system
 c) Flow pressure
 AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.B.1.4, MA.B.3.4, SC.A.1.4
- 15.05 Identify the following types of main water valves:
 a) Indicating
 b) Non-indicating
 c) Post indicator
 d) Outside screw and yoke
 AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 15.06 Describe how the following conditions reduce hydrant effectiveness:
 a) Obstructions to use of hydrant
 b) Direction of hydrant outlets to suitability of use
 c) Mechanical damage
 d) Rust and corrosion
 e) Failure to open the hydrant fully
 f) Ability to drain
 AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4
- 15.07 Identify the apparatus, equipment, and appliances required to provide water at rural locations by relay pumping, large diameter hose, or a tanker shuttle. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.B.1.4, MA.B.2.4, SS.B.1.4
- 15.08 Identify and explain the four (4) fundamental components of a modern water system.

- 15.09 Demonstrate deployment of a portable water tank. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
 - 15.10 Connect a supply hose to a hydrant, and fully open and close the hydrant. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
 - 15.11 Demonstrate the hydrant to pumper hose connections for forward and reverse lays. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
 - 15.12 Assemble and connect the equipment necessary for drafting from a static water supply source. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, PE.A.2.4
 - 15.13 Demonstrate the assemblage of equipment necessary for the transfer of water between portable water tanks. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.B.3.4, SC.A.1.4, PE.A.2.4
 - 15.14 Describe the loading and off-loading of tanks on mobile water supply apparatus. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, PE.A.2.4
 - 15.15 Identify the pipe sizes used in water distribution systems for residential, business, and industrial districts. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.B.3.4, SC.A.1.4
 - 15.16 Identify two causes of increased resistance or friction loss in water mains. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4
- 16.0 USE PRIVATE FIRE PROTECTION SYSTEMS--The student will be able to:
- 16.01 Identify a fire department sprinkler connection and water motor alarm. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
 - 16.02 Connect hose line(s) to a fire department connection of a sprinkler or standpipe system. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
 - 16.03 Define how the automatic sprinkler heads open and release water. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4
 - 16.04 Temporarily stop the flow of water from a sprinkler head using a wedge, tong, or stopper. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, PE.A.2.4
 - 16.05 Define the value of automatic sprinklers in providing safety to the occupants in a structure. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, HE.B.1.4
 - 16.06 Demonstrate carrying a 100 ft. attack line, 1 1/2" or larger, into a building, connecting it to a standpipe, and advancing from a standpipe. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, PE.A.2.4
 - 16.07 Identify the "Main Control" valve on an automatic sprinkler system. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4

- 16.08 Operate a main control valve on an automatic sprinkler system from "open" to "closed" and then back to "open".
AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 17.0 DEMONSTRATE SALVAGE PROCEDURES--The student will be able to:
- 17.01 Identify the purpose of salvage and its value to the public and the fire department. AT.4.1.4, AT.5.1.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SS.C.1.4
- 17.02 Demonstrate the removal of debris, and the removal and routing of water from a structure. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.2.4, PE.A.2.4
- 17.03 Demonstrate the covering or closing of openings made during fire fighting operations. AT.4.1.4, AT.7.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4
- 18.0 DEMONSTRATE OVERHAUL PROCEDURES--The student will be able to:
- 18.01 Identify the purpose of overhaul. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.1.4
- 18.02 Recognize at least four (4) indicators of hidden fires. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.1.4
- 18.03 Demonstrate searching for hidden fires. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.1.4
- 18.04 Demonstrate how to separate and remove charred material from unburned material. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.1.4
- 18.05 Demonstrate exposure of hidden fires by opening ceilings, walls, floors, and pulling apart burned materials. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.1.4, PE.A.2.4
- 18.06 Define duties of fire fighters left at the fire scene for fire and security surveillance. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SS.C.2.4
- 19.0 DEMONSTRATE KNOWLEDGE OF THE FUNDAMENTALS OF EXTINGUISHMENT--The student will be able to:
- 19.01 Describe the tactics employed to fight wildland fires. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.1.4, SC.D.1.4, SC.H.2.4
- 20.0 DEMONSTRATE KNOWLEDGE OF THE EFFECTS OF BUILDING CONSTRUCTION ON FIRE FIGHTING--The student will be able to:
- 20.01 Describe the basic structural characteristics of the following types of building construction:
- a) Wood frame
 - b) Ordinary
 - c) Heavy timber

- d) Noncombustible
- e) Fire resistant
 - AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4
- 20.02 Identify the general fire behavior expected with each type of building construction, including the spread of fire and the safety of the building, occupants, and firefighters.
 - AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, HE.B.1.4
- 20.03 Describe at least three hazards associated with truss and lightweight construction.
 - AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4
- 20.04 Identify dangerous building conditions created by fire and fire suppression activities.
 - AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, HE.B.1.4
- 20.05 Identify five (5) indicators of building collapse.
 - AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4
- 20.06 Describe the effects of fire and fire fighting activities on the following building materials:
 - a) Wood
 - b) Masonry
 - c) Cast iron
 - d) Steel
 - e) Gypsum wallboard
 - f) Reinforced concrete
 - g) Glass
 - h) Plaster on lath
 - AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.2.4
- 20.07 Define the following terms as they relate to building construction:
 - a) Load bearing
 - b) Partition wall
 - c) Veneer wall (exterior)
 - d) Party wall
 - e) Fire wall
 - f) Cantilever wall
 - AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4

OCCUPATIONAL COMPLETION POINT - DATA CODE B
 FIRE FIGHTER II - SOC 33-2011

- 29.0 USE FIRE ALARMS AND COMMUNICATIONS EQUIPMENT--The student will be able to:
 - 29.01 Identify fire location indicators provided to direct fire fighters to specific locations in protected public or private properties.
 - AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
 - 29.02 Identify supervisory alarm equipment provided in the fire station and prescribed action to be taken upon receipt of designated signals.
 - AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
 - 29.03 Define the policy and demonstrate the procedure of ordering and transmitting multiple alarms of fire and calls for

special assistance from the emergency scene. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4

31.0 DEMONSTRATE VENTILATION PRACTICES--The student will be able to:

- 31.01 Describe the use of different types of power saws and jack hammers. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.1.4, SC.C.2.4, PE.A.2.4
- 31.02 Identify the different types of roofs, demonstrate the techniques used to ventilate each type, and identify the necessary precautions. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.D.1.4
- 31.03 Identify the manual and automatic venting devices found within structures. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.D.1.4
- 31.04 Describe the operations and considerations necessary to control the spread of smoke and fire through duct systems, including: a) determining location and routing of ducts, b) shutting down systems to prevent spread of heat and smoke, c) checking false ceilings or framing enclosing duct systems, d) examining duct system after ventilation, e) checking duct system outlets, and f) determining if duct system has openings, smoke dampers, or smoke detectors. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.D.1.4
- 31.05 Identify considerations that must be made when determining the size and location of a ventilation opening, including: a) availability of natural openings, b) location of fire, c) direction fire will be drawn, d) type of building construction, e) wind direction, f) progress of fire, g) condition of building, h) obstructions, and i) relative efficiency of large openings versus small openings. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.A.4.4, MA.C.1.4, SC.A.1.4, SC.A.2.4, SC.D.1.4
- 31.06 Identify the location of an opening and the precautions to be taken when ventilating a basement. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.D.1.4
- 31.07 Describe fire ground situations where forced ventilation procedures may be required. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.D.1.4
- 31.08 Demonstrate the ventilation of a flat and pitched roof using both hands and power tools. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.A.2.4, SC.D.1.4, PE.A.2.4

33.0 DEMONSTRATE RESCUE PROCEDURES--The student will be able to:

- 33.01 Describe the techniques and safety procedures as they relate to the following rescue activities: a) structural collapses, b) trench collapses, c) caves and tunnels, d) water and ice emergencies, e) emergencies involving energized electrical lines, and f) industrial hazards.

- AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.1.4, SC.H.2.4, HE.B.1.4
- 33.02 Demonstrate the techniques and safety procedures to be followed when given simulated rescue situations, which will include the following scenarios: a) search and rescue of victim(s) from a residential structure, b) search of large interior areas, i.e., stores, warehouses, basements maintenance bays, etc., c) rescue of entrapped firefighter, d) search and rescue in areas of restricted passage, and e) search and rescue of victim(s) in a multi-story building. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.1.4, SC.H.2.4, PE.A.2.4, HE.B.1.4
- 33.03 Tie a standard rescue knot on a victim and lower a person from a third-floor level. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, SC.H.1.4, SC.H.2.4, PE.A.2.4, HE.B.1.4
- 33.04 Identify safety procedures used during elevator and escalator rescue operations. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.1.4, SC.H.2.4, PE.A.2.4, HE.B.1.4
- 33.05 Don a life safety harness that meets the requirements of NFPA 1983. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SS.C.1.4, PE.A.2.4, HE.B.1.4
- 33.06 Inspect a life safety harness and identify the conditions that would require its removal from service. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4, HE.B.1.4

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Course Title: Fire Fighting 3
Course Number: 8918130
Course Credit: 1

COURSE DESCRIPTION: This course allows students to develop advanced skills in using fire fighting tools and equipment.

07.0 USE FORCIBLE ENTRY EQUIPMENT--The student will be able to:

- 07.01 Identify the materials and construction features of door and window locking devices. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4
- 07.02 Identify the method and demonstrate procedures of through-the-lock entry for doors and windows. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4
- 07.03 Identify the method and procedure of properly cleaning, maintaining, and inspecting each type of forcible entry tool. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 07.04 Identify and safely carry at least 1 of the following:
 - a) Cutting tool
 - b) Prying tool
 - c) Pulling tool
 - d) Striking tool
- 07.05 Identify the materials and construction features of doors, windows, and walls and the dangers associated with forcing entry through each. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4
- 07.06 Describe and demonstrate the procedures for forcing entry through at least three different types each of doors, windows, and walls. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4
- 07.07 Demonstrate opening various types of windows from inside and outside, with and without the use of fire department tools. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, PE.A.2.4
- 07.08 Demonstrate breaking window or door glass and removing obstruction. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, PE.A.2.4

08.0 DEMONSTRATE VENTILATION PRACTICES--The student will be able to:

- 08.01 Define the principles of ventilation, and identify the advantages and effects of ventilation. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.D.1.4
- 08.02 Identify the dangers present and precautions to be taken in performing ventilation. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4,

- HE AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.1.4, SC.H.2.4, HE.B.1.4
- 08.03 Describe the advantages and disadvantages of the following types of ventilation:
- a) Vertical
 - b) Horizontal
 - c) Trench/strip
 - d) Mechanical
 - e) Mechanical pressurization
 - f) Hydraulic
- AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.D.1.4
- 08.04 Describe the signs, causes, and effects of backdraft explosions. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.2.4
- 08.05 Describe the methods or procedures used to prevent backdraft explosions. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.2.4
- 08.06 Identify the tools and equipment used during ventilation and demonstrate their use. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4
- 08.07 Recognize the characteristics of, and list necessary precautions when, ventilating at least the following roof types:
- a) Flat
 - b) Shed
 - c) Pitched
 - d) Arched
- AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.D.1.4
- 08.08 Demonstrate the integrity of a roof system by sounding. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.F.1.4, SC.H.1.4, PE.A.2.4
- 08.09 Describe how the following factors are used to determine the integrity of a roof system:
- a) Construction
 - b) Visual observation
 - c) Elapsed time of fire
- AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, MA.A.4.4, SC.H.1.4
- 08.10 Define procedures for the types of ventilation referred to in 08.03. AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4, HE.B.1.4

10.0 DEMONSTRATE RESCUE PROCEDURES--The student will be able to:

- 10.01 Demonstrate the removal of injured persons from the immediate hazard by the use of carries, drags, and stretchers. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, PE.A.2.4, HE.B.1.4
- 10.02 Define and demonstrate primary and secondary search procedures under fire conditions:
- a) With a rope or hose
 - b) Without a rope or hose

AT.4.1.4, AT.5.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, PE.A.2.4, HE.B.1.4

10.03 Don a life safety harness that meets the requirements of NFPA 1983, Standard on Fire Service Life Safety Rope, Harnesses, and Hardware.

10.04 Inspect a life safety harness and identify the conditions that would require its removal from service.

10.05 Identify and demonstrate the use of the following rescue tools:

- a) Cribbing and shoring material
- b) Block and tackle
- c) Hydraulic devices
- d) Pneumatic devices
- e) Ratchet devices

AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, PE.A.2.4, HE.B.1.4

10.06 Demonstrate the following evolutions, which may be required to extricate an entrapped victim of a motor vehicle crash by displacing:

- a) Vehicle roof
- b) Vehicle door
- c) Windshield
- d) Steering wheel
- e) Steering column and dashboard

AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, PE.A.2.4, HE.B.1.4

21.0 PARTICIPATE IN CONTROLLED BURNING EXERCISES--The student will be able to:

21.01 Using the appropriate protective equipment, tools, and agents, extinguish a Class A fire inside of a structure. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.B.2.4, PE.A.2.4, HE.B.1.4

21.02 Using the appropriate protective equipment, tools, and agents, extinguish an exterior Class A fire. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.B.2.4, PE.A.2.4, HE.B.1.4

21.03 Using the appropriate protective equipment, tools, and agents, extinguish an exterior open pan of a Class B liquid. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.B.2.4, PE.A.2.4, HE.B.1.4

21.04 Using the appropriate protective equipment, tools, and agents, extinguish a vehicle fire. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.B.2.4, PE.A.2.4, HE.B.1.4

21.05 Using the appropriate protective equipment, tools and agents, extinguish a storage container (exterior dumpster/trash bin) fire. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.B.2.4, PE.A.2.4, HE.B.1.4

40.0 OVERHAUL PROCEDURES--The student will be able to:

- 40.01 List the procedures to follow during overhaul. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.2.4, HE.B.1.4
- 40.02 Identify the safety precautions necessary during overhaul. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.1.4, SC.B.2.4, HE.B.1.4
- 40.03 List five indicators of structural instability. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.C.2.4, HE.B.1.4
- 40.04 Identify the responsibilities of the firefighter in determining the point of origin, cause, and protection of evidence in fires. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.1.4, SS.C.2.4, HE.B.1.4
- 40.05 Identify and preserve evidence of fire cause and origin. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.A.2.4, SC.B.2.4, PE.A.2.4, HE.B.1.4, HE.5.1.4
- 40.06 Identify the procedures for the restoration of the premises after a fire. AT.4.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.H.1.4, HE.B.1.4
- 40.07 Complete a basic fire incident report and describe the importance of this information. AT.4.1.4, AT.5.2.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, HE.B.1.4

44.0 PARTICIPATE IN CONTROLLED BURNING EXERCISES--The student will be able to:

- 44.01 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment, tools, and extinguishing agents: a fire in an elevated location within a structure (attic or upper floor). AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.H.1.4, PE.A.2.4, HE.B.1.4
- 44.02 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment, tools, and extinguishing agents: a fire in a below grade area or other location that requires an initial attack from above. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.H.1.4, PE.A.2.4, HE.B.1.4
- 44.03 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment, tools, and extinguishing agents: a fire involving (simulated) energized electrical components. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.H.1.4, PE.A.2.4, HE.B.1.4
- 44.04 Extinguish or control the following live fires working as a member of a team and using appropriate protective equipment, tools, and extinguishing agents: a fire involving a flammable gas cylinder and or piping. AT.4.1.4, AT.5.1.4, AT.8.1.4, LA.A.1.4, LA.A.2.4, LA.B.1.4, LA.B.2.4, LA.C.1.4, LA.C.2.4, LA.C.3.4, SC.B.2.4, SC.H.1.4, PE.A.2.4, HE.B.1.4

Florida Department of Education
INTENDED OUTCOMES

Program Title: Fire Apparatus Operator

PSAV

Program Numbers	P430203
CIP Number	0743.020302
Grade Level	30, 31
Standard Length	305 Hours
Certification	FIRE FIGHT @7 G
Basic Skills	
Math	10
Language	10
Reading	10

V. INTENDED OUTCOMES: After successfully completing appropriate course(s) for each occupational completion point of this program, the student will be able to perform the following:

OCCUPATIONAL COMPLETION POINT - DATA CODE A

FIRE FIGHTER I - SOC 33-2011

- 01.0 Demonstrate knowledge of fire department organization and procedures.
- 02.0 Use fire alarms and communications equipment.
- 03.0 Demonstrate knowledge of fire behavior.
- 04.0 Use portable fire extinguishers.
- 05.0 Personal protective equipment.
- 06.0 Demonstrate knowledge of fire apparatus.
- 07.0 Use forcible entry equipment.
- 08.0 Demonstrate ventilation practices.
- 09.0 Use ropes, tools, and equipment.
- 10.0 Demonstrate rescue procedures.
- 11.0 Demonstrate safety procedures.
- 12.0 Use ladders.
- 13.0 Use fire hose, nozzles, and appliances.
- 14.0 Use fire streams.
- 15.0 Use water supplies.
- 16.0 Use private fire protection systems.
- 17.0 Demonstrate salvage procedures.
- 18.0 Demonstrate overhaul procedures.
- 19.0 Demonstrate knowledge of the fundamentals of extinguishment.
- 20.0 Demonstrate knowledge of the effects of building construction on fire fighting.
- 21.0 Follow health and human relations' practices.
- 22.0 Participate in a physical fitness program.
- 23.0 Participate in fire training examinations.
- 24.0 Participate in controlled burning exercises.
- 25.0 Demonstrate knowledge of sexually transmitted diseases, including AIDS.
- 26.0 Demonstrate proficiency in first responder to medical emergencies' techniques and provide emergency medical care.
- 27.0 Demonstrate proper response to hazardous materials incidents.
- 28.0 Demonstrate various methods of communication.

29.0 Demonstrate application of knowledge of basic math skills.

OCCUPATIONAL COMPLETION POINT - DATA CODE B

DRIVER/ENGINEER - SOC 53-3099

- 30.0 Demonstrate knowledge of fire pump ratings.
- 31.0 Demonstrate knowledge of the relationship between flow and pressure.
- 32.0 Demonstrate knowledge of the Six Rules of Hydraulics and Fireground Rules of Thumb.
- 33.0 Demonstrate knowledge of hydrant capacity, standpipes, and sprinklers.
- 34.0 Demonstrate knowledge of friction loss and nozzle reaction.
- 35.0 Demonstrate knowledge of relay pumping.
- 36.0 Demonstrate ability to perform basic hydraulic calculations given the required formulas.
- 37.0 Demonstrate the ability to drive the following patterns: serpentine, alley dock, opposite alley, and diminishing clearance.
- 38.0 Demonstrate the ability to position an apparatus for hydrant hook-up and drafting.
- 39.0 Demonstrate the ability to recognize cavitation, water hammer, overheating, and unusual noises.
- 40.0 Demonstrate the ability to draft, tandem and relay pumping.
- 41.0 Demonstrate the ability to perform apparatus inspections, testing, and routine service functions.
- 42.0 Demonstrate knowledge of NFPA 1901 and applicable state laws and rules.
- 43.0 Demonstrate knowledge of single and multi-stage pumps, pump piping, and the pumping process.
- 44.0 Demonstrate knowledge of static, positive, and gravity water sources.
- 45.0 Demonstrate knowledge of pressure control, priming devices, and cooling systems.
- 46.0 Demonstrate knowledge of emergency vehicle driving characteristics and defensive driving techniques.
- 47.0 Demonstrate knowledge of gauges and valves.

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: Fire Apparatus Operator
Postsecondary Number: P430203

OCCUPATIONAL COMPLETION POINT - DATA CODE A
FIRE FIGHTER I - SOC 33-2011

01.0 DEMONSTRATE KNOWLEDGE OF FIRE DEPARTMENT ORGANIZATION, PROCEDURES AND RESPONSIBILITIES--The student will be able to:

- 01.01 Describe the organization of the fire department.
- 01.02 Explain the Firefighter I's role as a member of the organization.
- 01.03 Explain the Firefighter II's role as a member of the organization.
- 01.04 Explain the responsibilities of the firefighter in assuming and transferring command within an incident management system.
- 01.05 Explain the mission of the fire service and of the local fire department.
- 01.06 Explain the function of a standard operating procedure.
- 01.07 Explain the fire department rules and regulations that apply to the position of firefighter.
- 01.08 Explain the basic components of incident management and the firefighter's role within the local incident management system.
- 01.09 Explain the role of other agencies that may respond to emergencies.
- 01.10 Describe the components of a member assistance program.

02.0 USE FIRE ALARMS AND COMMUNICATIONS EQUIPMENT--The student will be able to:

- 02.01 Define the procedure for a citizen to report a fire or other emergency.
- 02.02 Demonstrate action taken upon receipt of an alarm or report of an emergency.
- 02.03 Define the purpose and function of all alarm-receiving instruments and personnel-alerting equipment in the fire station.
- 02.04 Identify procedures required for receipt and processing of business and personal calls.
- 02.05 Define and demonstrate prescribed fire department radio procedures, including:
 - a) Routine traffic
 - b) Emergency traffic
 - c) Emergency evacuation signals
- 02.06 Demonstrate both mobile and portable radio equipment.

03.0 DEMONSTRATE KNOWLEDGE OF FIRE BEHAVIOR--The student will be able to:

- 03.01 Define fire.
- 03.02 Define the fire triangle and tetrahedron.

- 03.03 Identify two chemical, mechanical, and electrical energy heat sources.
 - 03.04 Recognize the following conditions and explain their associated hazards and appropriate actions:
 - a) Incident fire
 - b) Rollover
 - c) Hot smoldering fire
 - d) Flashover
 - e) Steady state
 - f) Back draft
 - 03.05 Define the three methods of heat transfer.
 - 03.06 Define the three physical stages of matter in which fuels are commonly found.
 - 03.07 Define the hazard of finely divided fuels as they relate to the combustion process.
 - 03.08 Define flash point, fire point, and ignition temperature.
 - 03.09 Define concentrations of oxygen in air as it affects combustion and life safety.
 - 03.10 Identify three products of combustion commonly found in structural fires that create a life hazard.
 - 03.11 Define the following units of heat measurement:
 - a) British Thermal Unit (BTU)
 - b) Fahrenheit (°F)
 - c) Celsius (°C)
 - d) Calorie (C)
 - 03.12 Describe the process of thermal layering that occurs in structural fires and how to avoid disturbing the normal layering of heat.
- 04.0 USE PORTABLE FIRE EXTINGUISHERS--The student will be able to:
- 04.01 Identify the classification of types of fire as they relate to the use of portable extinguishers.
 - 04.02 Given a group of differing extinguishers, identify the appropriate extinguishers for the various classes of fire.
 - 04.03 Define the portable extinguisher rating system.
 - 04.04 Extinguish Class A and B fires using the appropriate portable fire extinguisher.
- 05.0 PERSONAL PROTECTIVE EQUIPMENT--The student will be able to:
- 05.01 Demonstrate the use of self-contained breathing apparatus (SCBA) in conditions of obscured visibility.
 - 05.02 Identify the physical requirements of the wearer of the SCBA.
 - 05.03 Identify the limitations of the SCBA.
 - 05.04 Identify the safety features of all types of self-contained breathing apparatus.
 - 05.05 Demonstrate the function of each component of the SCBA.
 - 05.06 Demonstrate that the SCBA is in a safe condition for immediate use.
 - 05.07 Demonstrate and document routine maintenance for SCBA including inspection, cleaning and sanitizing.
 - 05.08 Demonstrate the use of SCBA in conditions of restricted space.
 - 05.09 Demonstrate the following emergency techniques to be used in the event of SCBA failure:
 - a) Use of emergency bypass or purge-valve
 - b) Conservation of air

- c) Breathing from the breathing tube or regulator in the event of a face piece failure
- 05.10 Demonstrate techniques for maximizing the air capacity of an SCBA under work conditions.
- 05.11 Demonstrate the replacement of an expended cylinder of an SCBA assembly with a full cylinder.
- 05.12 Identify each of the following articles of protective equipment and describe their uses and limitations:
 - a) Helmet (with shield)
 - b) Hood
 - c) Boots
 - d) Gloves
 - e) Turnout or bunker coat
 - f) Turnout or bunker pants
 - g) SCBA
 - h) Personal alert safety system (PASS)
 - i) Eye protection
- 05.13 Describe and demonstrate the care, inspection, and maintenance of each of the above items of protective equipment.
- 05.14 Demonstrate the donning and doffing of the personal protective equipment listed in 5.10.
- 05.15 Identify the hazardous environments requiring the use of respiratory protection.
- 05.16 Demonstrate donning self-contained breathing apparatus while wearing protective clothing.
- 05.17 Demonstrate rescue procedures for the following, without compromising the rescuer's respiratory protection:
 - a) A firefighter with functioning respiratory protection
 - b) A firefighter without functioning respiratory protection
 - c) A civilian without respiratory protection
- 06.0 DEMONSTRATE KNOWLEDGE OF FIRE APPARATUS--The student will be able to:
 - 06.01 Identify the function of the following:
 - a) Engine company
 - b) Truck company
 - c) Rescue/Squad company
 - 06.02 Describe the functions of the following units:
 - a) Pumper/Engine
 - b) Aerial Apparatus
 - c) Mobile Water Supply Apparatus/Tanker
 - d) Wildland Fire Apparatus
 - e) ARFF - Aircraft Rescue and Fire Fighting
 - 06.03 Identify special equipment used in the following apparatus:
 - a) Rescue
 - b) Chemical
 - c) Floodlight and power
 - d) Air truck
- 07.0 USE FORCIBLE ENTRY EQUIPMENT--The student will be able to:
 - 07.01 Identify the materials and construction features of door and window locking devices.
 - 07.02 Identify the method and demonstrate procedures of through-the-lock entry for doors and windows.

- 07.03 Identify the method and procedure of properly cleaning, maintaining, and inspecting each type of forcible entry tool.
 - 07.04 Identify and safely carry at least 1 of the following:
 - a) Cutting tool
 - b) Prying tool
 - c) Pulling tool
 - d) Striking tool
 - 07.05 Identify the materials and construction features of doors, windows, and walls and the dangers associated with forcing entry through each.
 - 07.06 Describe and demonstrate the procedures for forcing entry through at least three different types each of doors, windows, and walls.
 - 07.07 Demonstrate opening various types of windows from inside and outside, with and without the use of fire department tools.
 - 07.08 Demonstrate breaking window or door glass and removing obstruction.
- 08.0 DEMONSTRATE VENTILATION PRACTICES--The student will be able to:
- 08.01 Define the principles of ventilation, and identify the advantages and effects of ventilation.
 - 08.02 Identify the dangers present and precautions to be taken in performing ventilation.
 - 08.03 Describe the advantages and disadvantages of the following types of ventilation:
 - A) Vertical
 - b) Horizontal
 - c) Trench/strip
 - d) Mechanical
 - e) Mechanical pressurization
 - f) Hydraulic
 - 08.04 Describe the signs, causes, and effects of backdraft explosions.
 - 08.05 Describe the methods or procedures used to prevent backdraft explosions.
 - 08.06 Identify the tools and equipment used during ventilation and demonstrate their use.
 - 08.07 Recognize the characteristics of, and list necessary precautions when, ventilating at least the following roof types:
 - a) Flat
 - b) Shed
 - c) Pitched
 - d) Arched
 - 08.08 Demonstrate the integrity of a roof system by sounding.
 - 08.09 Describe how the following factors are used to determine the integrity of a roof system:
 - a) Construction
 - b) Visual observation
 - c) Elapsed time of fire
 - 08.10 Define procedures for the types or ventilation referred to in 08.03.
- 09.0 USE ROPES, TOOLS, AND EQUIPMENT--The student will be able to:
- 09.01 When given the proper size and amount of rope, demonstrate tying a:
 - a) Bowline knot

- b) Clove hitch
 - c) Figure of eight on a bight
 - d) Figure of eight follow through
 - e) Figure of eight stopper knot
 - f) Chimney hitch
 - g) Becket or sheet bend
 - h) Girth hitch
 - i) Overhand safety knot
- 09.02 Using an approved knot, hoist any selected forcible entry tool, ground ladder, or appliance to a height of at least 20 feet (6m).
- 09.03 Demonstrate the techniques of inspecting, cleaning, maintaining, and storing rope.
- 09.04 Use a rope to tie ladders, hose, and other equipment so as to secure them to immovable objects.
- 09.05 Identify the reasons for placing a rope out of service.
- 09.06 Distinguish between life safety and utility ropes.
- 10.0 DEMONSTRATE RESCUE PROCEDURES--The student will be able to:
- 10.01 Demonstrate the removal of injured persons from the immediate hazard by the use of carries, drags, and stretchers.
- 10.02 Define and demonstrate primary and secondary search procedures under fire conditions:
- a) With a rope or hose
 - b) Without a rope or hose
- 10.03 Don a life safety harness that meets the requirements of NFPA 1983, Standard on Fire Service Life Safety Rope, Harnesses, and Hardware.
- 10.04 Inspect a life safety harness and identify the conditions that would require its removal from service.
- 10.05 Identify and demonstrate the use of the following rescue tools:
- a) Cribbing and shoring material
 - b) Block and tackle
 - c) Hydraulic devices
 - d) Pneumatic devices
 - e) Ratchet devices
- 10.06 Demonstrate the following evolutions, which may be required to extricate an entrapped victim of a motor vehicle crash by displacing:
- a) Vehicle roof
 - b) Vehicle door
 - c) Windshield
 - d) Steering wheel
 - e) Steering column and dashboard
- 11.0 DEMONSTRATE SAFETY PROCEDURES--The student will be able to:
- 11.01 Identify dangerous building conditions created by fire.
- 11.02 Demonstrate techniques for action when trapped or disoriented in a fire situation or a hostile environment.
- 11.03 Explain hazards related to electrical emergencies.
- 11.04 Demonstrate use of portable power plants, lights, cords, connectors, and ground fault interrupters (GFI).
- 11.05 Describe the responsibilities of a firefighter as required by NFPA 1500.
- 11.06 Demonstrate the procedures for shutting off the gas services to a building.

- 11.07 Demonstrate the procedures for shutting off electrical service to a building.
 - 11.08 Describe the elements of a personal accountability system and demonstrate the application of the system at an incident.
 - 11.09 Demonstrate the use of seat belts, noise barriers, and other safety equipment provided for protection while riding the apparatus.
 - 11.10 Demonstrate safety procedures when mounting, dismounting, and operating around fire apparatus.
 - 11.11 Identify a minimum of three common types of accidents or injuries, and their causes, that occur in the following locations:
 - a) Fire ground
 - b) Responding and returning
 - c) Training
 - d) Non-fire emergencies
 - e) Other on-duty locations
 - 11.12 Identify safety procedures for ensuring a safe station/facility environment.
 - 11.13 Identify potential long-term consequences of exposure to products of combustion.
- 12.0 USE LADDERS--The student will be able to:
- 12.01 Identify and describe the use of the following types of ladders
 - a) Folding/attic
 - b) Roof
 - c) straight/wall
 - e) Aerial ladders
 - 12.02 Raise, position, and lower the following types of ground ladders:
 - a) 14 ft. single or wall ladder
 - b) 24 ft. extension ladder
 - c) 35 ft. extension ladder
 - d) Attic/folding ladder
 - 12.03 Demonstrate the deployment of a roof ladder on a pitched roof.
 - 12.04 Climb the full length of each type of ground (and aerial, if available) ladder carrying fire fighting tools or equipment while ascending and descending.
 - 12.05 Climb the full length of each type of ground (and aerial, if available) ladder and bring an "injured person" down the ladder.
 - 12.06 Demonstrate the techniques of working from ground or aerial ladders with tools and appliances, with and without a safety harness.
 - 12.07 Demonstrate the techniques of cleaning, inspecting and maintaining ladders.
- 13.0 USE FIRE HOSE, NOZZLES, AND APPLIANCES--The student will be able to:
- 13.01 Identify the sizes, types, amounts, and use of hose as required to be carried on a pumper according to NFPA 1901.
 - 13.02 Demonstrate the use of all nozzles, hose adapters, and hose appliances as required to be carried on a pumper according to NFPA 1901.

- 13.03 When given the necessary equipment and operating as an individual and as a member of a team, advance dry hose lines of two different sizes, both of which shall be 1 1/2 inch or larger, from a pumper:
- a) Into a structure
 - b) Up a ladder to a second floor landing
 - c) Up an inside stairway to an upper floor
 - d) Up an outside stairway to an upper floor
 - e) Down an inside stairway to a lower floor
 - f) Down an outside stairway to a lower floor
 - g) To an upper floor by hoisting.
- 13.04 When given the necessary equipment and operating as a member of a team, advance charged attack lines of two different sizes, both which shall be 1 1/2 inch or larger, from a pumper:
- a) Into a structure
 - b) Up a ladder to a second floor landing
 - c) Up an outside stairway to an upper floor
 - d) Up an inside stairway to an upper floor
 - e) Down an inside stairway to a lower floor
 - f) Down an outside stairway to a lower floor
 - g) To an upper floor by hoisting.
- 13.05 Demonstrate the techniques for cleaning fire hose, couplings, and nozzles; and inspecting for damage.
- 13.06 Demonstrate at least 3 different types of hose loads and finishes.
- 13.07 Demonstrate three types of hose rolls.
- 13.08 Demonstrate two types of hose carries.
- 13.09 Demonstrate coupling and uncoupling of fire hose.
- 13.10 Work from a ground ladder with a charged attack line, which shall be 1 1/2 inch or larger.
- 13.11 Demonstrate the methods for extending a hose line.
- 13.12 Demonstrate replacing a burst section of hose line.
- 13.13 Demonstrate a hand lay of 300 feet (90 m) of supply line 1 1/2 inch (65 mm) or larger from a pumper to a water source.
- 14.0 USE FIRE STREAMS--The student will be able to:
- 14.01 Define a fire stream.
 - 14.02 Demonstrate how to open and close a nozzle and how to adjust its stream pattern and flow setting, when applicable.
 - 14.03 Define water hammer and at least one method for its prevention.
 - 14.04 Define the following methods of water application:
 - a) Direct
 - b) Indirect
 - c) Combination
 - 14.05 Identify precautions to be followed while advancing hose lines to a fire.
 - 14.06 Describe three observable results that are obtained when the proper application of a fire stream is accomplished.
 - 14.07 Assemble and operate a foam fire stream arrangement given the appropriate equipment.
 - 14.08 Demonstrate the methods for applying foam.
- 15.0 USE WATER SUPPLIES--The student will be able to:
- 15.01 Identify the water distribution system, and other water sources in the local community.
 - 15.02 Identify the following parts of a water distribution system:

- a) Distributors
 - b) Primary feeders
 - c) Secondary feeders
 - 15.03 Explain the operation of a:
 - a) dry-barrel hydrant
 - b) wet-barrel hydrant
 - 15.04 Define the following:
 - a) Normal operating pressure of a water distribution system
 - b) Residual pressure of a water distribution system
 - c) Flow pressure and d) static pressure
 - 15.05 Identify the following types of main water valves:
 - a) Indicating
 - b) non-indicating
 - c) Post indicator
 - d) Outside screw and yoke
 - 15.06 Describe how the following conditions reduce hydrant effectiveness:
 - a) Obstructions to use of hydrant
 - b) Direction of hydrant outlets to suitability of use
 - c) Mechanical damage
 - d) Rust and corrosion
 - e) Failure to open the hydrant fully
 - f) Ability to drain
 - 15.07 Identify the apparatus, equipment, and appliances required to provide water at rural locations by relay pumping, large diameter hose, or a tanker shuttle.
 - 15.08 Identify and explain the four (4) fundamental components of a modern water system.
 - 15.09 Demonstrate deployment of a portable water tank.
 - 15.10 Connect a supply hose to a hydrant, and fully open and close the hydrant.
 - 15.11 Demonstrate the hydrant to pumper hose connections for forward and reverse lays.
 - 15.12 Assemble and connect the equipment necessary for drafting from a static water supply source.
 - 15.13 Demonstrate the assemblage of equipment necessary for the transfer of water between portable water tanks.
 - 15.14 Describe the loading and off-loading of tanks on mobile water supply apparatus.
 - 15.15 Identify the pipe sizes used in water distribution systems for residential, business, and industrial districts.
 - 15.16 Identify two causes of increased resistance or friction loss in water mains.
- 16.0 USE PRIVATE FIRE PROTECTION SYSTEMS--The student will be able to:
- 16.01 Identify a fire department sprinkler connection and water motor alarm.
 - 16.02 Connect hose line(s) to a fire department connection of a sprinkler or standpipe system.
 - 16.03 Define how the automatic sprinkler heads open and release water.
 - 16.04 Temporarily stop the flow of water from a sprinkler head using a wedge, tong, or stopper.
 - 16.05 Define the value of automatic sprinklers in providing safety to the occupants in a structure.

- 16.06 Demonstrate carrying a 100 ft. attack line, 1 1/2" or larger, into a building, connecting it to a standpipe, and advancing from a standpipe.
 - 16.07 Identify the "Main Control" valve on an automatic sprinkler system.
 - 16.08 Operate a main control valve on an automatic sprinkler system from "open" to "closed" and then back to "open".
- 17.0 DEMONSTRATE SALVAGE PROCEDURES--The student will be able to:
- 17.01 Identify the purpose of salvage and its value to the public and the fire department.
 - 17.02 Demonstrate the removal of debris, and the removal and routing of water from a structure.
 - 17.03 Demonstrate the covering or closing of openings made during fire fighting operations.
- 18.0 DEMONSTRATE OVERHAUL PROCEDURES--The student will be able to:
- 18.01 Identify the purpose of overhaul.
 - 18.02 Recognize at least four (4) indicators of hidden fires.
 - 18.03 Demonstrate searching for hidden fires.
 - 18.04 Demonstrate how to separate and remove charred material from unburned material.
 - 18.05 Demonstrate exposure of hidden fires by opening ceilings, walls, floors, and pulling apart burned materials.
 - 18.06 Define duties of fire fighters left at the fire scene for fire and security surveillance.
- 19.0 DEMONSTRATE KNOWLEDGE OF THE FUNDAMENTALS OF EXTINGUISHMENT--The student will be able to:
- 19.01 Describe the tactics employed to fight wildland fires.
- 20.0 DEMONSTRATE KNOWLEDGE OF THE EFFECTS OF BUILDING CONSTRUCTION ON FIRE FIGHTING--The student will be able to:
- 20.01 Describe the basic structural characteristics of the following types of building construction:
 - a) Wood frame
 - b) Ordinary
 - c) Heavy timber
 - d) Noncombustible
 - e) Fire resistant
 - 20.02 Identify the general fire behavior expected with each type of building construction, including the spread of fire and the safety of the building, occupants, and firefighters.
 - 20.03 Describe at least three hazards associated with truss and lightweight construction.
 - 20.04 Identify dangerous building conditions created by fire and fire suppression activities.
 - 20.05 Identify five indicators of building collapse.
 - 20.06 Describe the effects of fire and fire fighting activities on the following building materials:
 - a) Wood
 - b) Masonry
 - c) Cast iron
 - d) Steel
 - e) Gypsum wallboard
 - f) Reinforced concrete

- g) Glass
 - h) Plaster on lath
- 20.07 Define the following terms as they relate to building construction:
- a) Load bearing
 - b) Partition wall
 - c) Veneer wall (exterior)
 - d) Party wall
 - e) Fire wall
 - f) Cantilever wall
- 21.0 PARTICIPATE IN CONTROLLED BURNING EXERCISES--The student will be able to:
- 21.01 Using the appropriate protective equipment, tools, and agents, extinguish a Class A fire inside of a structure.
 - 21.02 Using the appropriate protective equipment, tools, and agents, extinguish an exterior Class A fire.
 - 21.03 Using the appropriate protective equipment, tools, and agents, extinguish an exterior open pan of a Class B liquid.
 - 21.04 Using the appropriate protective equipment, tools, and agents, extinguish a vehicle fire.
 - 21.05 Using the appropriate protective equipment, tools and agents, extinguish a storage container (exterior dumpster/trash bin) fire.
- 22.0 SEXUALLY TRANSMITTED DISEASES/EMERGENCY MEDICAL CARE--The student will be able to:
- 22.01 Apply infection control techniques designed to prevent the spread of sexually transmitted diseases to the care of all patients following Centers for Disease Control (CDC) guidelines.
- 23.0 DEMONSTRATE PROFICIENCY IN FIRST RESPONDER TO MEDICAL EMERGENCIES TECHNIQUES--The student will be able to:
- 23.03 Conduct a primary assessment of problems that are a threat to life if not corrected immediately.
 - 23.04 Demonstrate the use, decontamination, disinfection, and disposal of personal protective equipment used for protection from infection.
 - 23.03 Perform the following procedures as defined in the Journal of the American Medical Association, "Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC)":
 - d) Single-rescuer CPR
 - 1. Adult
 - 2. Child
 - 3. Infant
 - e) Two-rescuer CPR on an adult
 - f) Management of an obstructed airway
 - 1. Conscious and unconscious adult
 - 2. Conscious and unconscious child
 - 3. Conscious and unconscious infant
 - 23.04 Demonstrate the use of a resuscitation mask in the performance of single- and two-rescuer CPR.
 - 23.05 Identify three (3) types of external bleeding and the characteristics of each type.

- 23.06 Demonstrate three (3) procedures for controlling external bleeding.
 - 23.07 Identify characteristics and emergency medical care of thermal burns according to degree and severity.
 - 23.08 Identify the emergency medical care for chemical burns, including chemical burns of the eyes.
 - 23.09 Identify the symptoms and demonstrate emergency medical care of traumatic shock.
 - 23.10 Identify the symptoms and demonstrate emergency medical care for ingested poisons and drug overdoses.
 - 23.11 Identify the method of contacting the poison control center that serves the local jurisdiction.
- 24.0 DETECT THE PRESENCE OF HAZARDOUS MATERIALS--The student will be able to:
- 24.01 Define hazardous materials.
 - 24.02 Identify the Department of Transportation (DOT) hazard classes and divisions of hazardous materials and common examples of materials in each hazard class or division.
 - 24.03 Identify the primary hazards associated with each of the DOT hazard classes and divisions of hazardous materials by hazard class or division.
 - 24.04 Identify the difference between hazardous materials incidents and other emergencies.
 - 24.05 Identify typical occupancies and locations in the community where hazardous materials are manufactured, transported, stored, used or disposed of.
 - 24.06 Identify typical container shapes that can indicate hazardous materials.
 - 24.07 Identify facility and transportation markings and colors that indicate hazardous materials, including the following:
 - a) UN/NA identification numbers
 - b) NFPA 704 markings
 - c) Military hazardous materials markings
 - d) Special hazard communication markings
 - e) Pipeline markings
 - f) Container markings
 - 24.08 Given an NFPA 704 marking, describe the significance of the colors, numbers, and special symbols.
 - 24.09 Identify U.S. and Canadian placards and labels that indicate hazardous materials.
 - 24.10 Identify the basic information on material safety data sheets (MSDS) and shipping papers that indicates hazardous materials.
 - 24.11 Identify where to find material safety data sheets (MSDS).
 - 24.12 Identify entries on MSDS that indicate the presence of hazardous materials.
 - 24.13 Identify the entries on shipping papers that indicate the presence of hazardous materials.
 - 24.14 Match the name of the shipping papers found in transportation (air, highway, rail, and water) with the mode of transportation.
 - 24.15 Identify the person responsible for having the shipping papers in each mode of transportation.
 - 24.16 Identify where the papers can be found in an emergency in each mode of transportation.
 - 24.17 Identify examples of clues (other than occupancy/location, container shape, markings/color, placards/labels, MSDS, and

shipping papers) that use the senses of sight, sound and odor to indicate hazardous materials.

24.18 Describe the limitation of using the senses in determining the presence or absence of hazardous materials.

25.0 COLLECT HAZARDOUS MATERIALS--The student will be able to:

25.01 Identify the three methods for determining the appropriate guide page for a hazardous material.

25.02 Identify the two general types of hazards found on each guide page.

26.0 INITIATE PROTECTIVE ACTION--The student will be able to:

26.01 Identify the location of both the local emergency response plan and the organization's standard operating procedures.

26.02 Identify the role of the first responder at the awareness level during a hazardous materials incident.

26.03 Identify the basic precautions to be taken to protect themselves and others in a hazardous materials incident.

26.04 Identify the precautions necessary when providing emergency medical care to victims of hazardous materials incidents.

26.05 Identify typical ignition sources found at the scenes of hazardous materials incidents.

26.06 Identify the ways hazardous materials are harmful to people, the environment, and property at hazardous materials incidents.

26.07 Identify the general routes of entry for human exposure to hazardous materials.

26.08 Given the identify of various hazardous materials (name, UN/NA identification number, or type placard), identify the following response information:

a) Emergency action (fire, spill, or leak and first aid)

b) Personal protective equipment necessary

c) Initial isolation and protective action distances

26.09 Given the name of a hazardous material, identify the recommended personal protective equipment from the following list:

a) Street clothing and work uniforms

b) Structural fire-fighting protective clothing

c) Positive pressure self-contained breathing apparatus

d) Chemical-protective clothing and equipment

26.10 Identify the definitions for each of the following protective actions:

a) Isolation of the hazard area and denial of entry

b) Evacuation

c) Sheltering in-place protection

26.11 Identify the shapes of recommended initial isolation and protective action zones.

26.12 Describe the difference between small and large spills as found in the table of Initial Isolation and Protective Action Distances.

26.13 Identify the circumstances under which the following distances are used at a hazardous material incident:

a) Table of initial isolation and protective action distance

b) Isolation distances in the numbered guides

- 26.14 Describe the difference between the isolation distances in the orange-bordered guide pages and the protective action distances in the green-bordered pages in the document.
 - 26.15 Identify the techniques used to isolate the hazard area and deny entry to unauthorized persons at hazardous materials incidents.
- 27.0 INITIATE THE NOTIFICATION PROCESS--The student will be able to:
- 27.01 Given either a facility or transportation scenario involving hazardous materials, identify the appropriate initial notifications to be made and how to make them, consistent with the local emergency response plan or the organization's standard operating procedures.
- 28.0 FIRE PREVENTION, PUBLIC FIRE EDUCATION, AND FIRE CAUSE DETERMINATION--The student will be able to:
- 28.01 Identify five (5) common causes of fires and their prevention.
 - 28.02 Define the importance of inspection and public fire education programs to fire department public relations and the community.
 - 28.03 Demonstrate inspection procedures for private dwellings.
 - 28.04 Present a prepared program to an identified audience, given a lesson plan, time allotment, and instructional materials for the following topics:
 - a. Stop, drop and roll
 - b. Crawl low in smoke
 - c. Escape planning
 - d. Alerting others
 - e. Calling the fire department
 - f. Fire station tour
 - g. Residential smoke detector placement and maintenance
 - 28.05 Document the presentation of a program covered in 28.04, given a reporting form that includes:
 - a) Program title
 - b) Number of participants
 - c) Evaluations

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- 29.0 DEMONSTRATE KNOWLEDGE OF FIRE PUMP RATINGS--The student will be able to:
- 29.01 Define fire pump ratings.
 - 29.02 Interpret fire pump ratings.
- 30.0 DEMONSTRATE KNOWLEDGE OF THE RELATIONSHIP BETWEEN FLOW AND PRESSURE--The student will be able to:
- 30.01 Define flow.
 - 30.02 Define pressure.
 - 30.03 Discuss the mathematical relationship between flow and pressure.
 - 30.04 Perform calculations based on the formulas expressing the relationship between flow and pressure.

- 31.0 DEMONSTRATE KNOWLEDGE OF THE SIX RULES OF HYDRAULICS AND FIREGROUND RULES OF THUMB--The student will be able to:
- 31.01 List and define the Six Rules of Hydraulics.
 - 31.02 List and define the Fireground Rules of Thumb.
- 32.0 DEMONSTRATE KNOWLEDGE OF HYDRANT CAPACITY, STANDPIPES, AND SPRINKLERS--The student will be able to:
- 32.01 Identify major components of fire hydrants.
 - 32.02 Identify major types of fire hydrants.
 - 32.03 Identify major components of standpipe systems.
 - 32.04 Identify major components of sprinkler systems.
 - 32.05 Identify major types sprinkler heads.
 - 32.06 Identify major components of municipal water systems.
 - 32.07 Identify major components of static water supply.
- 33.0 DEMONSTRATE KNOWLEDGE OF FRICTION LOSS AND NOZZLE REACTION--The student will be able to:
- 33.01 Define friction loss.
 - 33.02 Calculate friction loss over different lengths and diameters of fire hose.
 - 33.03 Define nozzle reaction.
 - 33.04 Discuss nozzle reaction with different types of nozzle at different pressures.
- 34.0 DEMONSTRATE KNOWLEDGE OF RELAY PUMPING--The student will be able to:
- 34.01 Define relay pumping.
 - 34.02 Perform the calculations to determine the relay set-up to deliver the desired flow.
- 35.0 DEMONSTRATE ABILITY TO PERFORM BASIC HYDRAULIC CALCULATIONS GIVEN THE REQUIRED FORMULAS--The student will be able to:
- 35.01 Calculate flow rates.
 - 35.02 Calculate tip pressures.
 - 35.03 Calculate pumping capacity.
- 36.0 DEMONSTRATE THE ABILITY TO DRIVE THE FOLLOWING PATTERNS: (A) SERPENTINE, (B) ALLEY DOCK, (C) OPPOSITE ALLEY AND, (D) DIMINISHING CLEARANCE--The student will be able to:
- 36.01 Drive the serpentine course without error.
 - 36.02 Drive the alley dock exercise without error.
 - 36.03 Drive the opposite alley exercise without error.
 - 36.04 Drive the diminishing clearance exercise without error.
- 37.0 DEMONSTRATE THE ABILITY TO POSITION AN APPARATUS FOR HYDRANT HOOK-UP AND DRAFTING--The student will be able to:
- 37.01 Park the apparatus in position for catching the hydrant.
 - 37.02 Park the apparatus in position for drafting.
- 38.0 DEMONSTRATE THE ABILITY TO RECOGNIZE CAVITATION, WATER HAMMER, OVERHEATING, AND UNUSUAL NOISES--The student will be able to:
- 38.01 Define cavitation.

- 38.02 Discuss measures to prevent cavitation.
 - 38.03 Define water hammer.
 - 38.04 Discuss measures to prevent water hammer.
 - 38.05 Define overheating.
 - 38.06 Discuss measures to prevent overheating.
 - 38.07 Discuss troubleshooting pump operations by listening.
- 39.0 DEMONSTRATE THE ABILITY TO DRAFT, TANDEM AND RELAY PUMPING--The student will be able to:
- 39.01 Define drafting.
 - 39.02 Define tandem pumping.
 - 39.03 Perform drafting operations.
 - 39.04 Perform tandem pumping operations.
 - 39.05 Perform relay pumping operations.
- 40.0 DEMONSTRATE THE ABILITY TO PERFORM APPARATUS INSPECTIONS, TESTING, AND ROUTINE SERVICE FUNCTIONS--The student will be able to:
- 40.01 Set up appropriate preventative maintenance schedules.
 - 40.02 Perform complete apparatus inspection prior to operations.
 - 40.03 Test apparatus components prior to use.
 - 40.04 Discuss routine service and maintenance activities for fire apparatus.
- 41.0 DEMONSTRATE KNOWLEDGE OF NFPA 1901 AND APPLICABLE STATE LAWS AND RULES--The student will be able to:
- 41.01 List and discuss key provisions of NFPA 1901.
 - 41.02 List and discuss key provisions of the Florida statutes relative to fire apparatus.
- 42.0 DEMONSTRATE KNOWLEDGE OF SINGLE AND MULTI-STAGE PUMPS, PUMP PIPING, AND THE PUMPING PROCESS--The student will be able to:
- 42.01 Identify major components of single-stage pumps.
 - 42.02 Identify major components of multi-stage pumps.
 - 42.03 Identify major components of pump piping.
 - 42.04 List major steps of the pumping process.
- 43.0 DEMONSTRATE KNOWLEDGE OF STATIC, POSITIVE, AND GRAVITY WATER SOURCES--The student will be able to:
- 43.01 Define static water sources.
 - 43.02 Define positive water sources.
 - 43.03 Define gravity water sources.
- 44.0 DEMONSTRATE KNOWLEDGE OF PRESSURE CONTROL, PRIMING DEVICES, AND COOLING SYSTEMS--The student will be able to:
- 44.01 Define pressure controls and demonstrate operation of each major type.
 - 44.02 Define priming devices.
 - 44.03 Identify major components of primary and auxiliary cooling systems.
- 45.0 DEMONSTRATE KNOWLEDGE OF EMERGENCY VEHICLE DRIVING CHARACTERISTICS AND DEFENSIVE DRIVING TECHNIQUES--The student will be able to:
- 45.01 Discuss the driving characteristics of emergency vehicles.

45.02 Discuss defensive driving techniques.

46.0 DEMONSTRATE KNOWLEDGE OF GAUGES AND VALVES--The student will be able to:

46.01 Identify all gauges on a typical pumper apparatus.

46.02 Read all gauges on a typical pumper apparatus.

46.03 Identify all valves on a typical pumper apparatus.

46.04 Operate all valves on a typical pumper apparatus.