Fire Coordinator: Earl Miller

Text Needed for Class:

Essentials of Fire Fighting (5th Edition) International Fire Service Training Association

Description:

Train on fire alarm and communications, forcible entry, ventilation, ropes, control, salvage, cause and origin, detection, alarm and suppression systems, prevention, public education, cause determination, building construction, emergency medical care and hazardous materials. Required state certification test follows the course.

Instructional Philosophy: Firefighter Level I course offers some basic firefighter instruction with hands on experience that prepares the student for the Firefighter Level II course. Students will be given the opportunity to use actual firefighting apparatus and equipment during practical evolutions and in controlled live fire operations.

Course Assessment: Upon completion of the course, students must pass the state certification exam with a score of 70% or higher. All students must complete 100% of the required material. Any student that is absent must make up the class hour for hour. It is the student’s responsibility to find an instructor and have the make up material with letter from a state certified fire instructor completed before they can take the state exam.
Objectives:

The student will acquire knowledge for firefighter level I, specifically:

Chapter 1: Orientation and Fire Service History

State the mission of the fire service.

Describe the organization of the fire department.

Discuss the role of the Firefighter 1 within the organization.

Explain a fire department’s standard operating procedures, rules and regulations as they apply to firefighters.

Discuss the role of their agencies as they relate to the department.

Locate and clarify information in departmental documents, standard and code materials.

Chapter 2: Firefighter Safety and Health

Discuss the critical aspects of fire department’s member assistance program, the critical aspect of NFPA1500, Fire Department Occupational Safety and Health Program.

Discuss the mounting and dismounting procedures for riding fire and EMS apparatus.

Describe the hazards and ways to avoid hazards which cause accidents associated with riding fire and EMS apparatus.

List the practices that are prohibited while riding fire and EMS apparatus.

List the common types of personal protective equipment used while riding on fire and EMS apparatus.

Demonstrate the proper use for each piece of safety equipment provided, including wearing seat belts. Explain the potential hazards involved in operating at emergency scenes including traffic control, utilities and environmental conditions.

Describe the proper procedures for dismounting fire and EMS apparatus in traffic and at other emergency and non-emergency scenes.
Explain the procedures and use of different types of protective equipment available to ensure the user’s safety, while operating at emergency scenes and work zone designations.

Demonstrate how to safely dismount apparatus, don appropriate safety equipment for the given situation and deploy traffic and scene control devices to protect the work.

Define emergency radio traffic communication procedures and emergency evacuation signals / methods.

Describe personnel accountability systems, emergency escape, and what constitutes a safe haven.

Describe common types of accidents or injuries and their causes that may occur on the fire ground.

**Chapter 3: Fire Behavior**

Describe various dangerous building conditions created as the result of a fire.

List and describe the potential long-term consequences of exposure to products of combustion for a firefighter.

List and describe the physical states of matter in which fuels are found.

List and explain the products of combustion found in a structure fire.

List and explain the signs and causes of a backdraft.

List and explain the effects of a backdraft.

Describe the methods to prevent a backdraft.

Explain the relationship of oxygen concentration to life safety.

Explain the relationship of oxygen concentration to fire growth.

List the different classifications of fire.

List the risks associated with each classification of fire.
Chapter 4: Building Construction

Describe common building materials.

Describe construction types and the effect fire has on the structural integrity of the construction type.

Identify the primary strengths and weaknesses of construction types.

Describe dangerous building constructions created by a fire or by actions taken while trying to extinguish a fire.

Identify indicators of building collapse.

List actions to take when imminent building collapse is suspected.

Describe hazards associated with lightweight and truss construction.

Chapter 5: Firefighter Personal Protective Equipment

Perform the ability to don personal protective clothing within 1 minute.

Perform the ability to doff personal protective clothing and prepare for reuse.

List and discuss the components that make up the SCBA assembly including low air alarm.

Convey breathing techniques while wearing SCBA.

Describe the indicators for and discuss possible emergency procedures while wearing SCBA.

List the physical requirements for wearing SCBA.

Exit a restricted passage while wearing full PPE and breathing air from a SCBA unit.

Demonstrate the ability to control breathing while breathing air from a SCBA unit.

Replace a depleted air cylinder with a full air cylinder on a SCBA unit.

Demonstrate emergency procedures taken in the event of SCBA failure or air cylinder depletion.
Don all personal protective clothing and equipment correctly, within two minutes, breathing air and pass device activated.

Describe the emergency procedure for loss of air supply.

Demonstrate methods to conserve SCBA air.

List the elements that create and / or indicate hazardous environment.

Describe the process for cleaning, inspection, maintenance and recording keeping for SCBA following manufacturers or department guidelines.

Demonstrate cleaning, inspection, basic maintenance and record keeping for SCBA in accordance to manufacture’s or department guidelines.

**Chapter 6: Portable Fire Extinguishers**

List the types of rating system for each classification of fire.

Describe the operating methods of a portable extinguisher.

Describe the limitations of a portable extinguisher.

Demonstrate the ability to operate a portable extinguisher.

Demonstrate how to approach fire with a portable extinguisher.

Demonstrate how to select an appropriate extinguisher based on the size and type of fire.

Demonstrate how to safely carry a portable extinguisher.

**Chapter 7: Ropes and Knots**

Discuss knot types and usages.

Describe the differences between life safety and utility rope.

Explain the reasons for placing rope out of service.

Discuss how the different types of knots are used for given tools, ropes or situations.
Discuss how rope is used to support response activities.

Demonstrate the hoisting methods for tools and equipment.

Demonstrate hoisting tools and equipment using ropes and the correct knot.

Describe the process for cleaning, inspection, maintenance and recording keeping for ropes following manufacturers or department guidelines.

Demonstrate cleaning, inspection, basic maintenance and record keeping for ropes in accordance to manufacture’s or department guidelines.

**Chapter 8: Rescue and Extrication**

Conduct a search, as a team member, in a vision-obscured condition, using all available senses to evaluate for hazards.

Exit a hazardous area by searching for and finding a guide line then following the line to a safe haven.

Describe the physiological effects of operating in obscured conditions and ways to effectively manage them.

Describe methods to determine if an area is tenable and safe for interior operations.

Describe the proper techniques to conduct a primary search.

Describe the proper techniques to conduct a secondary search.

List and describe each team member’s roles and goals during a structural search and rescue operation.

List and describe various methods to locate victims during a search and rescue operation.

Describe various methods and carries used to remove victims from a structure, on various floors, during search and rescue operations.

Demonstrate the various methods for maneuvering through restricted openings while wearing an SCBA.

Demonstrate a rescue of a firefighter with a functioning SCBA.
Demonstrate a rescue of a firefighter with a non-functioning SCBA.

Demonstrate a rescue of a victim with no respiratory protection.

Demonstrate the proper techniques for assessing the tenability of a given area.

Discuss the safety principles and practices for using lighting equipment.

Describe power supply capabilities and limitations.

List the methods of light deployment.

Demonstrate the ability to operate department power supply units (i.e. generators, PTO, etc).

Demonstrate the ability to operate lighting equipment (i.e. tripods, masts etc).

Demonstrate how to select and setup coeds and connectors.

Demonstrate how to reset ground fault interrupter (GFI) devices and apparatus breakers.

Demonstrate how to position lighting for optimal safety and effect.

Describe the process for cleaning, inspection, maintenance and recording keeping for hand tools following manufacturers or department guidelines.

Demonstrate cleaning, inspection, basic maintenance and record keeping for hand tools in accordance to manufacture’s or department guidelines.

**Chapter 9: Forcible Entry**

List the basic construction of typical doors, windows and walls found within the community or service area.

Explain the operation of a variety of doors, windows and locks used within the community or service area.

Convey dangers associated with forcing entry through doors, windows, walls and locks.

Demonstrate how to safely carry, operate and use common forcible entry tools to force entry through doors, windows, walls and locks.

Page 7 of 7
List and describe the proper use of forcible entry tools used during structural rescue operations.

Chapter 10: Ground Ladders

List the parts of an extension ladder.

Explain the hazards associated with setting up ground ladders.

Explain what constitutes a stable foundation for ladder placement.

Describe the different climbing angles need for safe completion of various tasks along with the hazards associated with each angle.

Explain what constitutes a reliable structural component for tip placement.

Demonstrate carries and raises for single and extension ladders along with extending the fly section(s) assuring the fly section are locked.

Establish, with certainty, that a wall or roof will support a ladder and that the ladder is at the correct climbing angle for the given task.

Select the correct length extension ladder. For a given height and properly place the ladder addressing and avoiding safety hazards.

Climb and leg lock an extension ladder.

Climb and leg lock an extension ladder and work with a tool.

Describe the proper placement of ground and aerial ladders during structural rescue operations.

Demonstrate the proper placement and use of ladders during rescue operations.

Describe the process for cleaning, inspection, maintenance and recording keeping for ladders following manufacturers or department guidelines.

Demonstrate clean, inspection, basic maintenance and record keeping for ladders in accordance to manufactures or department guidelines.
Chapter 11: Ventilation

List and describe the principles, advantages, limitations and effects of horizontal ventilation.

List and describe the principles, advantages, limitations and effects of vertical ventilation.

List and describe the principles, advantages, limitations and effects of mechanical ventilation.

List and describe the principles, advantages, limitations and effects of hydraulic ventilation.

List and describe the safety considerations when venting a structure.

Describe the behavior of the fire as it relates to venting in a structure.

Demonstrate the ability to properly carry and place a ladder to the structure for ventilation.

Demonstrate the ability to properly carry various ventilation tools and equipment to the location where they will be used.

Demonstrate the proper procedure for safely breaking glass in a window or door and remove all obstructions.

Describe the process for cleaning, inspection, maintenance and recording keeping for ventilation equipment following manufacturers or department guidelines.

Demonstrate cleaning, inspection, basic maintenance and record keeping for ventilation equipment in accordance to manufacture’s or department guidelines.

Chapter 12: Water Supply

Discuss loading and off-loading procedures for mobile water supply apparatus.

Describe fire hydrant operations.

Discuss procedures and protocol for connecting to suitable static water supply sources.

Demonstrate how to connect and place hard suction hose for drafting operations.

Operate the deployment of portable water tanks as well as the equipment necessary to transfer water between and draft from them.
Connect supply hose to a hydrant and fully open and close the hydrant.

Chapter 13: Fire Hose

Perform the ability to hand lay a supply hose.

Perform hydrant-to-pumper hose connections for forward and reverse lays.

Describe the proper placement and application of a small diameter (1 ½” to 2”) attack line.

Describe the proper placement and application of a medium diameter (2 ½”) attack line.

Demonstrate the proper procedure for advancing a 1 ½” or larger diameter hose up ladders.

Demonstrate the proper procedure for advancing a 1 ½” or larger diameter hose up stairways.

Demonstrate the proper procedure for advancing a 1 ½” or larger diameter hose down stairways.

Demonstrate the proper methods for extending hose lines.

Demonstrate the proper methods for replacing burst or broken sections of hose.

Operate charged hose line of 1 ½” diameter or larger hose line while secured to a ground ladder.

Demonstrate the proper methods for coupling and uncoupling various size hose connections.

Describe the process for cleaning, inspection, maintenance, placing hose in / out of service and recording keeping for fire hose in accordance to manufacture’s or department guidelines.

List and describe common hose rolls and hose loads.

Demonstrate cleaning, inspection, marking defects and maintenance of couplings and gaskets on different types of fire hose.

Operate hose washing and drying equipment.

Perform hose loads and rolls.
Chapter 14: Fire Streams

List the various types of fire streams used for an interior fire attack.

Describe the design, operation, nozzle pressure effects and flow capabilities of various types of fog nozzles.

Describe the design, operation, nozzle pressure effects and flow capabilities of various types of smooth bore nozzles.

Describe the design, operation, nozzle pressure effects and flow capabilities of various types of specialty nozzles.

Describe the observable results of a properly applied fire stream.

Demonstrate the proper methods to prevent water hammer when shutting down nozzles.

Demonstrate the ability to properly open, close and adjust nozzle flow and patterns on various automatic and adjustable fog nozzles.

Demonstrate the ability to properly open and close various smooth bore nozzles.

Chapter 15: Fire Control

Convey the principles of fire streams as they relate to fighting vehicle fires.

List the dangerous conditions created during a vehicle fire along with the precautions taken when advancing hose lines towards these types of fires.

Describe the desired observable results of a properly applied fire stream to a vehicle fire.

Identify types of alternative fueled vehicles and list the hazards associated with each vehicle type.

Disclose the types of injuries associated with extinguishing vehicle fires along with procedures for avoiding these injuries.

Describe how to gain entry into locked trunks, engine compartments and passenger compartments.

List procedures for conducting a safe and effective overhaul after extinguishing a vehicle
Perform the proper procedures while advancing a 1 ½ or larger diameter attack line, operating the nozzle pattern for maximum effectiveness, extinguishing the vehicle fire while maintaining flash fire protection.

Access all locked and unlocked compartments to expose and extinguish hidden fires.

Identify vehicle’s fuel type and use proper procedures for controlling fuel leaks.

List the hazards and difficulties encountered while extinguishing and overhauling stacked piles of Class A materials.

Describe the extinguishing agent, attack lines and hose streams needed to effectively extinguish stacked materials and outdoor fires.

List the hazards such as collapse, toxic fumes and hazardous materials that may be found during fires in buildings, storage facilities and containers.

From the exterior, recite potential hazards, operate hand lines and master streams to protect exposures and maximize penetration while extinguishing a Class A fire involving different configurations of materials, small attached buildings and / or storage containers.

Search for hidden fire, break up materials using hand tools, and apply water streams and evaluating for complete extinguishment.

Search for hidden fire, break up materials using hand tools, and apply water streams and evaluating for complete extinguishment.

List and describe the precautions to be followed when advancing hose lines to a fire.

Describe the role of a backup team during an interior fire attack.

Describe the proper fire attack methods for a grade level fire.

Describe the proper fire attack methods for an above grade level fire.
Career & Technology Education Centers of Licking County

Firefighter Level I Syllabus

Describe the proper fire attack methods for a below grade level fire.

Demonstrate the proper procedures for applying water using a direct fire attack.

Demonstrate the proper procedures for applying water using an indirect fire attack.

Demonstrate the proper procedure for applying water using a combination fire attack.

Demonstrate the proper fire attack methods for a grade level fire.

Demonstrate the proper fire attack methods for an above grade level fire.

Demonstrate the proper fire attack methods for a below grade level fire.

Locate and suppress interior wall fires.

List the properties and principles for utilities likely encountered (i.e. electricity, gas, water, hydraulic or pneumatic systems).

List the safety concerns for utilities likely encountered (i.e. electricity, gas, water, hydraulic or pneumatic systems).

List the methods for rendering utilities likely encountered safe (i.e. shutoff, disconnection, lockout, etc).

Describe the associated dangers related to rendering utilities safe.

Describe the use of required safety equipment in rendering utilities safe.

Demonstrate the ability to identify utility control devices.

Demonstrate the ability to operate utility related control valves or switches.

Demonstrate the ability to perform an assessment for utility related hazards.

List the fuel classifications as they relate to wildland fires.

List the parts of a wildland fire.

Discuss the methods used to approach and attack wildland fires for containment or suppression.
Discuss the safety principles and practices commonly used for wildland fire containment and suppression.

Demonstrate the steps to determine exposure threats based on wildland fire spread.

Demonstrate how exposures are protected from spreading wildland fires.

Demonstrate the steps on how to construct a fire line.

Demonstrate the steps to extinguish a wildland fire using hand tools.

Demonstrate the steps needed to maintain the integrity of established fire lines against a spreading wildland fire.

Demonstrate the steps to suppress a contained wildland fire with water.

**Chapter 16: Fire Detection, Alarm, and Suppression Systems**

Describe the methods used to protect property.

Discuss the operations at properties protected with automatic sprinklers.

Describe how to stop the flow of water from an automatic sprinkler head.

Discuss to identification of main control valves on an automatic sprinkler system.

Demonstrate how to stop the flow of water from a sprinkler head with sprinkler wedge or stoppers.

Operate a main control valve on an automatic sprinkler system.

**Chapter 17: Loss Control**

Describe the proper methods for locating and exposing hidden fires.

List the types of fire attack lines and water application devices most effective for overhaul.

Describe the water application methods for extinguishment that will limit water damage.

List the types of tools and methods used to expose hidden fires.
Discuss the dangers associated with overhaul.

Demonstrate the ability to deploy and operate an attack line during overhaul.

Demonstrate the steps for removing flooring, ceiling and wall material to expose void spaces without compromising structural integrity.

Perform water application for maximum effectiveness during overhaul.

Demonstrate the steps for exposing and extinguishing hidden fires in walls, ceilings and sub-floor spaces.

Discuss the purpose of property conservation and its value to the public.

List the types of and uses for salvage covers.

Discuss forcible entry issues related to salvage.

Demonstrate the ability to cluster furniture.

Demonstrate how to deploy covering materials.

Demonstrate how to roll and fold salvage covers for rescue.

Demonstrate how to construct water chutes and catch-alls.

Demonstrate the procedures for removing water.

Demonstrate how to cover building openings, including doors, windows, floor openings and roof openings. Perform the steps to separate, remove and relocate charred material to a safe location.

Describe the process for cleaning, inspection, maintenance and recording keeping for salvage equipment following manufacturers or department guidelines.

Demonstrate cleaning, inspection, basic maintenance and record keeping for salvage equipment in accordance to manufacturer’s or department guidelines.

**Chapter 18: Protecting Fire Scene Evidence**

Disclose obvious signs of fire origin and cause and list the techniques for preserving fire evidence.
cause related evidence.

Assess fire, heat and smoke patterns for determination of fire origin while protecting physical evidence.

List the obvious signs of the area of origin, signs of arson and reasons for protecting evidence.

Demonstrate how to preserve evidence, detect area of origin and evaluate for complete extinguishment.

Chapter 19: Fire Department Communications

Explain the procedures for reporting an emergency, departmental SOPs for taking and receiving alarms, radio codes or procedures and information needs of dispatch center.

Discuss the departmental SOPs for taking and receiving alarms, radio codes and procedures.

Demonstrate the ability to operate fire department communications equipment, relay information and record information.

Discuss the fire department procedures for answering non-emergency telephone calls.

Demonstrate the ability to operate fire station telephone and intercom equipment.

Discuss the departmental radio procedures and etiquette for routine traffic, emergency traffic and emergency evacuation signals.

Perform the ability to operate radio equipment and discriminate between routine and emergency traffic.