



Western Technical College

10503142 Fire Fighting Principles

Course Outcome Summary

Course Information

Description Describes basic fire behavior, techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinguish fires and otherwise meet all requirements for Firefighter I certification with the State of Wisconsin.

Career Cluster Law, Public Safety, Corrections and Security

Instructional Level Associate Degree Courses

Total Credits 4

Total Hours 108

Pre/Corequisites

Prerequisite 10503195 Fire Behavior and Combustion

Prerequisite 10503143 Building Construction for Fire Protection

Prerequisite 10503191 Principles of Emergency Services

Prerequisite 10503192 Principles of Emergency Services Safety & Survival

Textbooks

Fundamentals of Fire Fighter Skills and Hazardous Materials Response - with Premier Access. 4th Edition. Copyright 2019. National Fire Protection Association. Publisher: Jones & Bartlett Publishers. **ISBN-13**: 978-1-284-15142-8. Required.

The 2020 Emergency Response Guidebook. Copyright 2020. Publisher: J.J. Keller and Associates, Inc. **ISBN-13**: 978-1-64551-023-9. Required.

Learner Supplies

NFPA compliant fire bunker boots, fire gloves, & Nomex fire hood (Approx \$150), Polo shirt with logo, black pants, black ankle supporting shoes/boots (Approx \$105). **Vendor:** To be discussed in class. Required.

Program Outcomes

1. Model Fire Protection Technician (National Firefighter Code of Ethics) professional code of ethics
2. Perform fire prevention activities
3. Participate in incident management at an emergency
4. Model firefighter and EMS standards

Course Competencies

1. **Examine the fire fighter recruit program**
2. **Use safe practices in the fire service not only on the fireground but in all required activities**
3. **Choose protective clothing and gear**

Assessment Strategies

- 3.1. Demonstration
- 3.2. Written Objective Test

Learning Objectives

- 3.a. List the components of personal protective equipment (PPE) or the structural firefighting ensemble.
- 3.b. Examine the components of personal protective equipment (PPE).
- 3.c. Don entire structural and protective clothing and equipment correctly within a two minute timeframe.
- 3.d. Check a partner to make sure equipment has been donned correctly.

4. **Use fire service equipment**

Assessment Strategies

- 4.1. Skill Demonstration
- 4.2. Written Objective Test

Learning Objectives

- 4.a. Identify tools and equipment used in fire service.
- 4.b. Classify tools used in fire service.
- 4.c. Demonstrate safe handling and use of tools used in fire service.

5. **Illustrate general fire department organization**
6. **Describe the nature of fire travel**
7. **Differentiate classes of fire and hazards created for the firefighter**
8. **Operate various types and sizes of fire extinguishers**

Assessment Strategies

- 8.1. Skill Demonstration
- 8.2. Written Objective Test

Learning Objectives

- 8.a. List the various types of fire extinguishers, including what type of fire each extinguisher is used for.
- 8.b. Perform visual inspection of various types of fire extinguishers.
- 8.c. Demonstrate safe and correct use of various types of fire extinguishers.
- 8.d. Explain post-use of various fire extinguishers, including maintenance and recharging procedures.

9. **Utilize various types and sizes of hose**

Assessment Strategies

- 9.1. Written Objective Test
- 9.2. Skill Demonstration

Learning Objectives

- 9.a. Describe various types and sizes of fire hose used in fire service.
- 9.b. Classify the correct hose used for different fire emergencies.
- 9.c. Demonstrate correct inspection, care and maintenance of fire hose.
- 9.d. Demonstrate hose rolls and various hose loads.

10. Utilize various methods of supplying water for fireground operations

Assessment Strategies

- 10.1. Written Objective Test
- 10.2. Skill Demonstration

Learning Objectives

- 10.a. Describe rural and municipal water systems in fire service.
- 10.b. Demonstrate fire hydrant operations, maintenance and inspection.
- 10.c. Demonstrate rural operations to include safety set up and use.

11. Operate fire streams

Assessment Strategies

- 11.1. Written Objective Test
- 11.2. Skill Demonstration

Learning Objectives

- 11.a. List the various types of fire streams.
- 11.b. Identify the nozzle associated with each type of fire stream.
- 11.c. Demonstrate correctly the various types of fire streams.
- 11.d. Describe how hose construction (material, diameter, etc..) affects the fire stream or water supply.

12. Use ladders for fireground operations

Assessment Strategies

- 12.1. Written Objective Test
- 12.2. Skill Demonstration

Learning Objectives

- 12.a. Describe types, construction, inspection, maintenance and service testing of ladders used in fire service.
- 12.b. Demonstrate correct lifting and carrying of ladders used in fire service.
- 12.c. Demonstrate safe placement and raising of a ladder used in fire service.
- 12.d. Describe the factors used in decision making for safe placement and raising of a ladder used in fire service.

13. Gain entrance into buildings

Assessment Strategies

- 13.1. Written Objective Test
- 13.2. Skill Demonstration

Learning Objectives

- 13.a. Describe the purpose of ventilation.
- 13.b. Describe the different types of ventilation.
- 13.c. Select appropriate ventilation for specific situations.
- 13.d. Describe fire behavior as it relates to ventilation.
- 13.e. Demonstrate safe and correct vertical and horizontal ventilation techniques.
- 13.f. Select correct tools and equipment for use in various ventilation operations.

14. Summarize venting techniques and operations

15. Use salvage covers and other salvage equipment

Assessment Strategies

- 15.1. Written Objective Test
- 15.2. Skill Demonstration

Learning Objectives

- 15.a. Describe when salvage operations should begin on an emergency operation.
- 15.b. Explain the benefits of salvage operations.
- 15.c. Demonstrate various salvage tarp operations.
- 15.d. Describe various materials used for salvage tarps.
- 15.e. Demonstrate maintenance and inspection of various salvage tarps.
- 15.f. Demonstrate various folds of salvage tarps.

16. Perform overhaul

Assessment Strategies

- 16.1. Skill Demonstration
- 16.2. Written Objective Test

Learning Objectives

- 16.a. Describe when overhaul procedures should begin in an emergency situation.
- 16.b. Describe safety concerns during overhaul operations.
- 16.c. Demonstrate checking for hidden fires in the overhaul operation.
- 16.d. Describe special incidents that may influence overhaul operations.

17. Determine the cause of the fire

Assessment Strategies

- 17.1. Written Objective Test

Learning Objectives

- 17.a. Differentiate accidental fires from incendiary fires.
- 17.b. Find the point of origin.
- 17.c. Define the chain of custody.
- 17.d. Demonstrate techniques for preserving fire-cause evidence.
- 17.e. Describe observations that a fire fighter should make responding to and on the fire ground.

18. Use self-contained breathing apparatus

Assessment Strategies

- 18.1. Written Objective Test
- 18.2. Skill Demonstration

Learning Objectives

- 18.a. Use Self-contained Breathing apparatus (SCBA)
- 18.b. List respiratory hazards posed by smoke and fire
- 18.c. List conditions that require respiratory protection or SCBA
- 18.d. Describe difference between Open-circuit and closed-circuit breathing apparatus
- 18.e. Describe limitations of SCBA
- 18.f. Describe major components of SCBA
- 18.g. Explain how to inspect SCBA to ensure operational readiness
- 18.h. Demonstrate complete donning sequence of Personal Protective Equipment (PPE) to include SCBA
- 18.i. Demonstrate refilling procedures of SCBA Cylinders

19. Use rope and knots for fireground operations

Assessment Strategies

- 19.1. Written Objective Test
- 19.2. Skill Demonstration

Learning Objectives

- 19.a. Use Ropes and Knots for Fire ground Operations
- 19.b. Describe two types of fire service and line safety rope.
- 19.c. Describe characteristics of fire service rope
- 19.d. Describe advantages and disadvantages of synthetic fiber rope
- 19.e. Explain how life safety ropes are rated per NFPA 1983
- 19.f. Perform inspection and maintenance and record keeping on fire service rope

- 19.g. Describe how to store rope properly
- 19.h. List terms used to describe parts of a rope when knot tying and common knots that are used in the fire service
- 19.i. Demonstrate proper knot tying of the common fire service knots
- 19.j. Describe criteria for taking a fire service rope out of service

20. Use SCBA in searching for victims in a building

Assessment Strategies

- 20.1. Written Objective Test
- 20.2. Skill Demonstration

Learning Objectives

- 20.a. Use SCBA in searching for victims in buildings
- 20.b. Describe the mission of search operations and rescue operations
- 20.c. Explain how search and rescue operations are coordinated with other fire suppression operations
- 20.d. Describe how to perform a risk-benefit analysis
- 20.e. List priorities of search operations
- 20.f. Describe primary and secondary search
- 20.g. Describe what tools might be used to aid in search operations
- 20.h. Demonstrate common victim carries performed during rescue operations
- 20.i. Describe actions taken for down firefighter
- 20.j. Describe common self-rescue methods
- 20.k. Describe air management techniques
- 20.l. Describe the duties of a rapid intervention crew (RIC)

21. Use hose lines within a structure

Assessment Strategies

- 21.1. Written Objective Test
- 21.2. Skill Demonstration

Learning Objectives

- 21.a. Use hose lines within a structure
- 21.b. Select nozzle and hose for interior fire attack
- 21.c. Describe objectives of offensive and defensive fire attack
- 21.d. Perform direct, indirect and combination fire attack
- 21.e. Demonstrate fire streams within a structure
- 21.f. Describe hazards associated when working with fire streams within a structure

22. Use ladders for rescue

Assessment Strategies

- 22.1. Written Objective Test
- 22.2. Skill Demonstration

Learning Objectives

- 22.a. Use ladders for rescue.
- 22.b. Specify hazards associated with ladders.
- 22.c. Describe selection of ladder to be used for rescue operations.
- 22.d. Explain who is in charge when working with ladders.
- 22.e. Demonstrate correct lifting technique, carrying, placement and raise of rescue ladder.
- 22.f. Demonstrate leg lock or lock in with ladder belt prior to working on a ladder.
- 22.g. Demonstrate rescue of conscious victim from a window.
- 22.h. Demonstrate rescue of unconscious victim from a window.
- 22.i. Demonstrate rescue of unconscious child or small adult from a window.

23. Examine fire department communications

Assessment Strategies

- 23.1. Written Objective Test

Learning Objectives

- 23.a. Describe role of the communications center in the fire service.
- 23.b. Describe role and responsibilities of a telecommunicator.

- 23.c. Describe equipment used in a communication center.
- 23.d. Explain computer-aided dispatch CAD and its value in an emergency incident.
- 23.e. List the five major steps in processing an emergency incident.
- 23.f. Describe basic radio communications.
- 23.g. Explain the term plain language in fire service communications
- 23.h. Describe information provided in arrival and progress reports
- 23.i. Compare procedures for answering nonemergency business and personal telephone calls with emergency telephone calls.

24. Analyze the value of fire prevention activities and fire inspection procedures

25. Ascertain the operation and value of various sprinkler systems

26. Utilize the Incident Command System on the fireground during tactical operations

Assessment Strategies

- 26.1. Written Objective Test
- 26.2. Skill Demonstration

Learning Objectives

- 26.a. Utilize the Incident Command System on the Fireground during tactical operations
- 26.b. Complete self-study courses National Incident Management 700 (NIMS 700) and Incident Command System 100 (ICS-100) (required for course)
- 26.c. Describe the Chain of Command at an Emergency Incident
- 26.d. Demonstrate arrival (Initial) report and assumption of a command on the fireground during tactical operations

27. Interpret safety standards and codes as they pertain to safety on the fireground and at the station

28. Recognize hazardous materials as they relate to the Emergency Response Guidebook (hazmat awareness level)

29. Perform venting techniques and operations

Assessment Strategies

- 29.1. Written Objective Test
- 29.2. Skill Demonstration