

Fire Science and Technology II



Industry Sector: [Public Services](#)

Pathway: Emergency Response

This course is designed to introduce students to fire behavior, fire suppression, fire fighting techniques, and emergency medical response. The course replicates a full time paid fire academy and is based on three core values: Communication, Teamwork and Discipline.

Last Revised: July 24, 2017

Program Information	CTE Certification Elements
<p>Industries / Pathways: Public Service Industry: Emergency Response Pathway</p> <p>Grade Levels: 11</p> <p>CSU/UC Approval: No</p> <p>Community College Course: No</p> <p>Pathway Sequence(s) That Include This Course:</p> <p>Emergency Response Pathway Course Sequence: Introduction to Health and Human Service Careers or Health Professions and Organizations First Aid, Emergency Response and CPR Career Explorations Anatomy and Physiology Fire Science and Technology I <i>Fire Science and Technology II</i> Fire Technology Internship (Grades 10-11-12)</p>	<p>Course Level: Concentrator</p> <p>CALPADS Pathway: PUB-233</p> <p>CALPADS Course Title: Fire Science and Technology II</p> <p>State Course ID: 8421</p> <p>Total Hours: 90 hours</p> <p>Course Length: 1 Semester</p> <p>State Certified:</p> <p>Local Course Number: FPT2</p> <p>Board Approval: Pending Board Action on 12/7/17</p> <p>Labor Market Demand: High</p> <p>Course Type: Career-Technical Preparation</p>

Competencies / Outcomes

Students will:

1. Don and doff firefighter personal protective equipment.
2. Don and doff self-contained breathing apparatus.
3. Demonstrate different techniques for fire fighter ground ladders, including carrying, raising and lowering.
4. Perform hose lays and advance hose lines for fire suppression.
5. Produce a variety of knots and hitches.
6. Employ search and rescue techniques and recover victims.
7. Manipulate fire suppression apparatus and equipment.
8. Practice regular physical activity including, stretching, cardiovascular, weightlifting using appropriate techniques.

CTE Pathway Standards

1. CTE.PS.A.5.1 [Describe how federal, state, and local laws and regulations affect public safety operations.](#)
2. CTE.PS.B.1.1 [Understand the responsibilities, requirements, and advancement opportunities in emergency response careers](#)
3. CTE.PS.B.2.1 [Describe the mechanisms by which emergency management stakeholder agencies and resources are coordinated for mutual aid.](#)
4. CTE.PS.B.2.2 [Understand the importance of an organized Command and Control System to provide for interoperability, efficiency, and effectiveness.](#)
5. CTE.PS.B.2.3 [Understand the core set of basic concepts, principles, terminology, and technologies of emergency response management.](#)
6. CTE.PS.B.2.4 [Recognize multiagency coordination; unified command, training, identification and management of resources; qualification and certification; and the collection, tracking, evaluation, and dissemination of information.](#)
7. CTE.PS.B.2.5 [Describe the principles and responsibilities of the Incident Command System \(ICS\) and the National Incident Management System \(NIMS\).](#)
8. CTE.PS.B.3.1 [Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision-making skills as applied in emergency services.](#)
9. CTE.PS.B.3.3 [Employ active listening, concise reporting, and familiarity with emergency response communication equipment to interact efficiently and effectively.](#)
10. CTE.PS.B.3.6 [Adhere to Health Insurance Portability and Accountability Act \(HIPAA\) regulations and agency guidelines regarding public and media communications.](#)

11. CTE.PS.B.3.9 [Practice verbal and nonverbal emergency terminology and communication techniques to be used when interacting with emergency response personnel in a variety of emergency situations.](#)
12. CTE.PS.B.9.1 [Understand and use medical terminology and related knowledge of anatomy, physiology, diseases, diagnoses, pharmacology, therapeutics, and common abbreviations necessary for emergency medical services.](#)
13. CTE.PS.B.9.3 [Perform technical skill and equipment use required for emergency response occupations—for example, airway, oxygen, and ventilation procedures; suction; bleeding control; shock management; cardiac arrest management; immobilization techniques; traction; splinting; transport; defibrillation; and wound management.](#)
14. CTE.PS.B.9.6 [Manage an incident scene as the first responder, using emergency response skills appropriate to training and certification.](#)
15. CTE.PS.B.9.11 [Describe the function of emergency vehicles, use of medical and communication equipment, and the necessity of maintaining inventory as required for emergency services practices and procedures](#)
16. CTE.PS.B.7.4 [Explain the steps taken, including appropriate personnel and safety measures, for a hazardous-material release.](#)
17. CTE.PS.B.8.3 [Explain the fundamentals and scientific principles of fire behavior, combustible materials, extinguishing agents, hazardous and toxic materials, forms of energy, and fire prevention/suppression techniques for all types of fires and conditions.](#)
18. CTE.PS.B.8.6 [Identify structural characteristics of building construction types as they relate to fire protection and suppression, and recognize the signs and causes of potential building collapse and other hazards.](#)
19. CTE.PS.B.8.7 [Apply principles of proper body mechanics, including ergonomics, equipment use, and techniques to prevent personal injury.](#)

Common Core Standards for Literacy in History/Social Studies, Science and Technical Subjects

Reading

1. RST.9-10.3 (9th and 10th) [Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.](#)
2. RST.11-12.3 (11th and 12th) [Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.](#)
3. RST.9-10.9 (9th-10th) [Compare and contrast findings presented in a text to those from other sources \(including their own experiments\), noting when the findings support or contradict previous explanations or accounts.](#)
4. RST.11-12.9 (11th and 12th) [Synthesize information from a range of sources \(e.g., texts, experiments, simulations\) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.](#)

Writing

1. WHST.9-10.4, WHST.11-12.4 (9-10 & 11-12) [Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.](#)

Units

Unit 1: Recap of Fire Tech 1 Fundamentals

Description

After completing this unit, students will be able to demonstrate knowledge learned in the fundamentals of Fire Tech year 1. Lessons include a recap of units and an accelerated refresher of skills.

Key Activities/Topics

Upon successful completion of this unit, students will be able to demonstrate knowledge of the following:

1. Healthy eating habits and exercise (Nutrition)
2. The historical information surrounding the creation of the fire services (History of Fire Service)
3. The habits and behavior of fire (Fire Behavior)
4. Marching drills and ceremony etiquettes (Fire Academy Drills and Ceremony)
5. Proper use and maintenance of portable fire extinguishers (Fire Extinguishers)
6. The use and maintenance of different apparatus used by emergency responders (Fire Apparatus)

Key concepts will be assessed through performance of skills, written and oral examinations.

Unit 2: Personal Protective Equipment (PPE)

Description

After completing this unit, students will be able to properly use and care for personal protective equipment (PPE) as well as describe how it can protect firefighters. Students will understand how the limitations of PPE impact the need to select equipment appropriate for the incident in order to take advantage of this protection.

Key Activities/Topics

Lessons describe basic information about the various types of equipment and how it can protect firefighters. Lessons also cover PPE limitations, selection of PPE based on proposed use, as well as care and maintenance. Upon successful completion of this unit, students will be able to:

1. Describe the purpose of personal protective equipment. *[NFPA® 1001, 5.1.1, 5.3.3]*

2. Describe characteristics of each type of personal protective equipment. *[NFPA® 1001, 5.3.2]*
3. Summarize guidelines for the care of personal protective clothing. *[NFPA® 1001, 5.1.1, 5.3.3, 5.5.1]*
4. Explain safety considerations for personal protective equipment. *[NFPA® 1001, 5.3.1]*
5. Identify respiratory hazards. *[NFPA® 1001, 5.3.1]*
6. Identify types of respiratory protection equipment. *[NFPA® 1001, 5.3.1]*
7. Describe the limitations of respiratory protection equipment. *[NFPA® 1001, 5.3.1]*
8. Explain methods for storing respiratory protection equipment. *[NFPA® 1001, 5.5.1]*
9. Describe general donning and doffing considerations for protective breathing apparatus. *[NFPA® 1001, 5.3.1, 5.3.2]*
10. Summarize general considerations for protective breathing apparatus inspections and care. *[NFPA® 1001 5.1.1, 5.5.1]*
11. Summarize safety precautions for refilling SCBA cylinders. *[NFPA® 5.5.1]*
12. Explain procedures for replacing SCBA cylinders. *[NFPA® 1001 5.3.1]*
13. Explain safety precautions for SCBA use. *[NFPA® 1001 5.3.1]*
14. Describe non-emergency and emergency exit indicators. *[NFPA® 5.3.1]*
15. Describe non-emergency exit techniques. *[NFPA® 1001 5.3.1]*
16. Demonstrate the method for donning structural personal protective clothing for use at an emergency. *[NFPA® 1001, 5.1.2, 5.3.1, 5.3.2, 5.3.3, Skill Sheet 6-I-1]*
17. Demonstrate the over-the-head method of donning an SCBA with structural personal protective clothing in place. *[NFPA® 1001 5.3.1, 5.3.2, 5.3.3, Skill Sheet 6-I-2]*
18. Demonstrate the coat method of donning an SCBA with structural personal protective clothing in place. *[NFPA® 1001 5.3.1, 5.3.2, 5.3.3, Skill Sheet 6-I-3]*
19. Demonstrate the method for donning an SCBA while seated with structural personal protective clothing in place. *[NFPA® 1001 5.3.1, 5.3.2, 5.3.3, Skill Sheet 6-I-4]*
20. Doff personal protective equipment, including respiratory protection, and prepare for reuse. *[NFPA® 1001 5.1.2, 5.3.2, 5.3.3, Skill Sheet 6-I-5]*
21. Demonstrate the steps for inspecting an SCBA. *[NFPA® 1001 5.3.2, 5.5.1; Skill Sheet 6-I-6]*
22. Demonstrate the steps for cleaning and sanitizing an SCBA. *[NFPA® 1001 5.3.2, 5.5.1; Skill Sheet 6-I-7]*
23. Demonstrate the method for filling an SCBA cylinder from a cascade system, wearing appropriate PPE, including eye and ear protection. *[NFPA® 1001 5.3.1; Skill Sheet 6-I-8]*
24. Demonstrate the method for filling an SCBA cylinder from a compressor/purifier system wearing appropriate PPE, including eye and ear protection. *[NFPA® 1001 5.3.1; Skill Sheet 6-I-9]*
25. Demonstrate the one-person method for replacing an SCBA cylinder. *[NFPA® 1001 5.3.1; Skill Sheet 6-I-10]*
26. Demonstrate the two-person method for replacing an SCBA cylinder. *[NFPA® 1001 5.3.1; Skill Sheet 6-I-11]*

Key concepts will be assessed through performance of skills, written and oral examinations.

Unit 3: Self Contained Breathing Apparatus (SCBA)

Description

After completing this unit, students will be able to properly use and care for self-contained breathing apparatus (SCBA) as well as describe how it can protect firefighters. Students will understand how the limitations of SCBA impact the need to select equipment appropriate for the incident in order to take advantage of this protection.

Key Activities/Topics

This unit covers purpose and usage of a self-contained breathing apparatus. Lessons describe basic information about the various types of equipment and how it can protect firefighters. Lessons also cover SCBA limitations, selection of SCBA based on proposed use, as well as care and maintenance. Upon successful completion of this unit, the student will be able to:

1. Describe general donning and doffing considerations for protective breathing apparatus. *[NFPA® 1001, 5.3.1, 5.3.2]*
2. Summarize general considerations for protective breathing apparatus inspections and care. *[NFPA® 1001 5.1.1, 5.5.1]*
3. Summarize safety precautions for refilling SCBA cylinders. *[NFPA® 5.5.1]*
4. Explain procedures for replacing SCBA cylinders. *[NFPA® 1001 5.3.1]*
5. Explain safety precautions for SCBA use. *[NFPA® 1001 5.3.1]*

Key concepts will be assessed through performance of skills, written and oral examinations.

Unit 4: Ladders

Description

After completing this unit, the student shall be able to recognize ground ladders used in the fire service and select the appropriate ladder for the task presented. Students will also be able to carry and deploy fire service ground ladders.

Key Activities/Topics

This unit covers ground ladder construction, ladder types, and inspection and maintenance. Lessons also cover ladder deployment and procedures for working from a ladder. Upon successful completion of this unit, students will be able to:

1. Describe different construction types of ground ladders. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
2. Identify the parts of a ladder including markings and labels. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
3. Recognize the types of ladders used in the fire service. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*

4. Explain the considerations addressed by ladder inspection, cleaning, and maintenance. *[NFPA® 1001, 5.5.1]*
5. Describe safety guidelines used when handling ladders. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
6. Explain considerations taken when selecting, lifting, and lowering a ladder. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
7. Describe various methods for ladder carries. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
8. Identify basic considerations and requirements for ground ladder placement. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
9. Describe various methods for ladder raises. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
10. Compare procedures for moving ground ladders. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
11. Explain the methods used to secure ladders. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
12. Describe ladder climbing considerations. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
13. Indicate what methods can be used to work from a ladder. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
14. Explain methods used for assisting a victim down a ladder. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12]*
15. Clean, inspect, and maintain a ladder. *[NFPA® 1001, 5.5.1; Skill Sheet 12-I-1]*
16. Carry a ladder – One-firefighter low-shoulder method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-2]*
17. Carry a ladder – Two-firefighter low-shoulder method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-3]*
18. Carry a ladder – Three-firefighter flat-shoulder method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-4]*
19. Carry a ladder – Three-firefighter flat-arm's length method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-5]*
20. Carry a ladder – Two-firefighter arm's length on-edge method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-6]*
21. Tie the halyard. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-7]*
22. Raise a ladder – One-firefighter method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-8]*
23. Raise a ladder – Two-firefighter flat raise. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-9]*
24. Raise a ladder – Two-firefighter beam raise. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-10]*
25. Raise a ladder – Three- or four-firefighter flat raise. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-11]*
26. Deploy a roof ladder – One-firefighter method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-12]*
27. Pivot a ladder – Two-firefighter method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-13]*
28. Shift a ladder – One-firefighter method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-14]*
29. Shift a ladder – Two-firefighter method. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-15]*
30. Heel a ground ladder. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-16]*
31. Leg lock on a ground ladder. *[NFPA® 1001, 5.3.6, 5.3.11, 5.3.12; Skill Sheet 12-I-17]*
32. Assist a conscious victim down a ground ladder. *[NFPA® 1001, 5.3.9; Skill Sheet 12-I-18]*
33. Assist an unconscious victim down a ground ladder. *[NFPA® 1001, 5.3.9; Skill Sheet 12-I-19]*

Key concepts will be assessed through performance of skills, written and oral examinations.

Unit 5: Search and Rescue (S/R)

Description

After completing this unit, students will be able to describe, as well as perform, search and victim removal methods to use during structural search and rescue. Students will also be able to explain and perform firefighter survival skills used during structural search and rescue. This is the unit covers structural search, victim removal, and firefighter survival.

Key Activities/Topics:

Lessons describe basic structural search methods, explains victim removal methods, and details firefighter survival methods and skills. Upon successful completion of this unit, students will be able to:

1. Summarize the impact of building construction and floor plans on structural search techniques. *[NFPA® 1001, 5.3.9]*
2. Explain size-up and situational awareness considerations during structural searches. *[NFPA® 1001, 5.3.9]*
3. Summarize safety guidelines for structural search and rescue. *[NFPA® 1001, 5.3.9]*
4. Differentiate between primary and secondary search techniques. *[NFPA® 1001, 5.3.9]*
5. Recognize basic search methods. *[NFPA® 1001, 5.3.9]*
6. Describe victim removal methods. *[NFPA® 1001, 5.3.5, 5.3.9]*
7. Explain firefighter survival methods. *[NFPA® 1001, 5.3.1, 5.3.5, 5.3.9]*
8. Explain what survival actions firefighters can take when needed. *[NFPA® 1001, 5.3.1, 5.3.5]*
9. Describe the actions of a rapid intervention crew or team (RIC/RIT) when locating a downed firefighter. *[NFPA® 1001, 5.3.5, 5.3.9]*
10. Demonstrate the procedure for conducting a primary search. *[NFPA® 1001, 5.3.9; Skill Sheet 9-I-1]*
11. Demonstrate the procedure for conducting a secondary search. *[NFPA® 1001, 5.3.9; Skill Sheet 9-I-2]*
12. Demonstrate the incline drag. *[NFPA® 1001, 5.3.9; Skill Sheet 9-I-3]*
13. Demonstrate the webbing drag. *[NFPA® 1001, 5.3.9; Skill Sheet 9-I-4]*
14. Demonstrate the cradle-in-arms lift/carry — One-rescuer method. *[NFPA® 1001, 5.3.9; Skill Sheet 9-I-5]*
15. Demonstrate the seat lift/carry — Two-rescuer method. *[NFPA® 1001, 5.3.9; Skill Sheet 9-I-6]*
16. Demonstrate the extremities lift/carry — Two-rescuer method. *[NFPA® 1001, 5.3.9; Skill Sheet 9-I-7]*
17. Demonstrate the actions required for transmitting a MAYDAY report. *[NFPA® 1001, 5.2.4, 5.3.5, 5.3.9; Skill Sheet 9-I-8]*
18. Demonstrate the proper procedures for an SCBA air emergency. *[NFPA® 1001, 5.3.1, 5.3.5, 5.3.9; Skill Sheet 9-I-9]*
19. Demonstrate the actions required for withdrawing from a hostile environment with a hoseline. *[NFPA® 1001, 5.3.5, 5.3.9; Skill Sheet 9-I-10]*
20. Demonstrate low profile maneuvers without removing SCBA – Side technique. *[NFPA® 1001, 5.3.1, 5.3.5, 5.3.9; Skill Sheet 9-I-11]*

21. Perform low profile maneuvers without removing SCBA – SCBA- first technique. *[NFPA® 1001, 5.3.1, 5.3.5, 5.3.9; Skill Sheet 9-I-12]*
22. Demonstrate the method for breaching an interior wall. *[NFPA® 1001, 5.3.5, 5.3.9; Skill Sheet 9-I-13]*
23. Demonstrate the steps for disentangling from debris or wires. *[NFPA® 1001, 5.3.5, 5.3.9; Skill Sheet 9-I-14]*

Key concepts will be assessed through performance of skills, written and oral examinations.

Unit 6: Ropes & Knots

Description

After completing this unit, students will be able to appropriately select rope and webbing based on proposed use. Students will also be able to select and tie the appropriate knot for the task presented. This unit covers ropes, webbing, and knots. This lesson also describes basic information for use and care of ropes and webbing, and covers rope types, selection of ropes and knots based on proposed use, as well as care and maintenance.

Key Activities/Topics

Upon successful completion of this unit, students will be able to:

1. Compare and contrast the characteristics of life safety rope and utility rope. *[NFPA® 1001, 5.3.2]*
2. Summarize basic guidelines for rope maintenance. *[NFPA® 1001, 5.5.1]*
3. Explain reasons for placing rope out of service. *[NFPA® 1001, 5.3.20]*
4. Describe webbing and webbing construction. *[NFPA® 1001, 5.3.20]*
5. Describe parts of a rope and considerations in tying a knot. *[NFPA® 1001, 5.1.2, 5.3.20]*
6. Describe knot characteristics and knot elements. *[NFPA® 1001, 5.1.2, 5.3.20]*
7. Describe characteristics of knots commonly used in the fire service. *[NFPA® 1001, 5.1.2, 5.3.20]*
8. Select commonly used rope hardware for specific applications. *[NFPA® 1001, 5.1.2, 5.3.20]*
9. Summarize hoisting safety considerations. *[NFPA® 1001, 5.1.2, 5.3.20]*
10. Inspect, clean, and store rope. *[NFPA® 1001 5.5.1; Skill Sheet 8-I-1]*
11. Tie an overhand knot. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-2]*
12. Tie a bowline knot. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-3]*
13. Tie a clove hitch. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-4]*
14. Tie a clove hitch around an object. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-5]*

15. Tie a handcuff (rescue) knot. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-6]*
16. Tie a figure-eight knot. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-7]*
17. Tie a figure-eight bend. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-8]*
18. Tie a figure-eight on a bight. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-9]*
19. Tie a figure-eight follow through. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-10]*
20. Tie a Becket bend. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-11]*
21. Tie a water knot. *[NFPA® 1001 5.3.20; Skill Sheet 8-I-12]*
22. Hoist an axe. *[NFPA® 1001 5.1.2, 5.3.20; Skill Sheet 8-I-13]*
23. Hoist a pike pole. *[NFPA® 1001 5.1.2, 5.3.20; Skill Sheet 8-I-14]*
24. Hoist a roof ladder. *[NFPA® 1001 5.1.2, 5.3.20; Skill Sheet 8-I-15]*
25. Hoist a dry hoseline. *[NFPA® 1001 5.1.2, 5.3.20; Skill Sheet 8-I-16]*
26. Hoist a charged hoseline. *[NFPA® 1001 5.1.2, 5.3.20; Skill Sheet 8-I-17]*
27. Hoist a power saw. *[NFPA® 1001 5.1.2, 5.3.20; Skill Sheet 8-I-18]*
28. Rate the two-person method for replacing an SCBA cylinder. *[NFPA® 1001 5.3.1; Skill Sheet 6-I-11]*

Key concepts will be assessed through performance of skills, written and oral examinations.

Unit 7: Forcible Entry

Description:

After completing this lesson, students will be able to explain, as well as perform, forcible entry into a structure or structural components. Students will also be able to explain and perform forcible entry methods and breaching operations.

Key Activities/Topics

Upon successful completion of this lesson, students will be able to:

1. Explain the basic principles of forcible entry. *[NFPA® 1001, 5.3.4]*
2. Describe considerations a firefighter must take when using forcible entry tools. *[NFPA® 1001, 5.3.4]*
3. Indicate steps needed to care for and maintain forcible entry tools. *[NFPA® 1001, 5.5.1]*
4. Explain the ways to force entry through various types of doors. *[NFPA® 1001, 5.3.4]*
5. Identify considerations that need to be taken when forcing entry through locks, padlocks, overhead doors, and fire doors. *[NFPA® 1001, 5.3.4]*

6. Describe forcible entry methods used for windows. *[NFPA® 1001, 5.3.4]*
7. Explain considerations firefighters must take when forcing entry through miscellaneous types of windows and covers. *[NFPA® 1001, 5.3.4]*
8. Describe forcible entry methods for breaching walls. *[NFPA® 1001, 5.3.4]*
9. Explain forcible entry methods for breaching floors. *[NFPA® 1001, 5.3.4]*
10. Indicate methods for forcing fences and gates. *[NFPA® 1001, 5.3.4]*
11. Clean, inspect, and maintain hand tools and equipment. *[NFPA® 1001, 5.5.1; Skill Sheet 11-I-1]*
12. Clean, inspect, and maintain power tools and equipment. *[NFPA® 1001, 5.5.1; Skill Sheet 11-I-2]*
13. Force entry through an inward-swinging door – Two-firefighter method. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-3]*
14. Force entry through an inward-swinging door – Cutting the lock out of the door method. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-4]*
15. Force entry through an outward-swinging door – Removing hinge-pins method. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-5]*
16. Force entry through an outward-swinging door – Wedge-end method. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-6]*
17. Force entry using the through-the-lock method. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-7]*
18. Force entry using the through-the-lock method using the K-tool. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-8]*
19. Force entry using the through-the-lock method using the A-tool. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-9]*
20. Force entry through padlocks. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-10]*
21. Cut a padlock with a rotary saw. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-12]*
22. Force entry through a window (glass pane). *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-13]*
23. Force entry through a wood-framed wall. (Type V construction) with hand tools. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-16]*
24. Force entry through a wood wall. (Type V construction) with a rotary saw or chain saw. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-17]*
25. Force entry through a masonry wall with hand tools. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-19]*
26. Force entry through a metal wall with power tools. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-20]*
27. Breach a hardwood floor. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-21]*
28. Bridge a fence with a ladder. *[NFPA® 1001, 5.3.4, 5.3.14; Skill Sheet 11-I-22]*

Key concepts will be assessed through performance of skills, written and oral examinations.