

FRS 202

Firefighters Advanced Skills II

45 clock hours

3 credit hours

Course	Title	Lecture/Skill		Total	Fractional Credit
FRS 2021	Portable Extinguishers II	2	0	2	0.1
FRS 2022	Water Supply II	10	2	12	0.8
FRS 2023	Pump Operations I	15	2	17	1.1
FRS 2024	Foam Fire Streams II	1	0	1	0.1
FRS 2025	Salvage II	1	0	1	0.1
FRS 2026	Fire prevention, Public Education and Fire Cause Determination I	12	0	12	0.8

FRS 2021

**PORTABLE FIRE
EXTINGUISHERS
LEVEL II**

Lecture Skill Fractional
Credit

2	0	0.1
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Course Description

This advanced course relates to the types, classification and use of fire extinguishers including the definitions utilized in rating each type and the selection of a given extinguisher in attacking a particular class of fire.

Prerequisites: FRS 1015 or Consent

Corequisite: None

Task List

1.	Identify the classification of fires as they relate to fire extinguishers.
2.	Define the portable extinguishers rating systems.
3.	Identify the appropriate extinguishers and the application procedures for the various classes of fire, given a group of different extinguishers.
4.	Extinguish Class A and B fires using the proper fire extinguishers.

Instructor Equipment List

Fuel
Assorted fire extinguishers

Student Equipment List

Full protective clothing

Old FRT Number: 320 / FRT 139

Lecture	Skill	Fractional Credit
10	2	0.8

Course Description

This course includes information pertaining to water supply including water distribution systems, hydrant operation and apparatus, equipment and appliances required to provide water for fire extinguishment.

Prerequisites: FRS 1041 or Consent

Corequisite: None

Task List

1.	Identify the water distribution system and other water sources in the local community.
2.	Identify the following parts of a water distribution system: a. Distributors; b. Primary feeders; and c. Secondary feeders.
3.	Explain the operation of a: a. Dry-barrel hydrant; and b. Wet-barrel hydrant.
4.	Define the following terms as they relate to water supply: a. Static pressure; b. Normal operating pressure; c. Residual pressure; and d. Flow pressure.
5.	Identify the following types of water main valves: a. Indicating, and b. Nonindicating.
6.	Describe how the following conditions reduce hydrant effectiveness: a. Hydrant obstructions; b. Direction of hydrant outlets to suitability of use; c. Mechanical damage; d. Rust and corrosion; e. Failure to open the hydrant fully; and f. Susceptibility to freezing.
7.	Identify the apparatus, equipment, and appliances required to provide water at rural locations by relay pumping or a mobile water supply apparatus shuttle.
8.	Identify and explain the 4 fundamental components of a modern water system.
9.	Given a pitot tube and gauge, read and record flow pressures from three different-sized orifices.
10.	Identify the pipe sizes used in water distribution systems for residential, business, and industrial districts.
11.	Identify 2 causes of increased resistance or friction loss in water mains.

Instructor Equipment List

Pitot tube and gauge
Hydrant wrench
Static water gauge
Assorted fittings and adapters as required
Nozzles and nozzle tips

Student Equipment List

Personal protective equipment

Old FRT number: 390 / FRT 140

Lecture	Skill	Fractional Credit
15	2	1.1

Course Description	
This course includes the minimum requirements of professional competence of fire service pump operators.	
Prerequisites: FRS 1041 or Consent	Corequisite:

Task List	
1.	Identify the operating principles of single-state and multiple-stage centrifugal fire pumps.
2.	Given pump models or diagrams, shall identify the major components and trace the flow of water through single-state and multiple-state centrifugal pumps.
3.	Identify the percentages of rated capacity, rated pressures, and the capacity in gallons per (GPM) at the rated pressures a fire department pumper is designed to deliver.
4.	Given a fire department pumper and the necessary equipment, demonstrate an annual pumper service test.
5.	Identify the following conditions that may result in possible pumper apparatus damage or unsafe operation, and identify corrective measures: <ul style="list-style-type: none"> a. Cavitation; b. Leaking fuel, oil or water; c. Overheating; d. Unusual noises; e. Vibrations; and f. Water hammer
6.	Identify incrustation, tuberculation, and sedimentation, and their effects on the carrying capacities of water mains.
7.	Identify various types of hydrants including description of: <ul style="list-style-type: none"> a. Connection size and type of thread of discharge openings; b. Construction and operation of drain valve; c. Direction of operation of the main valve; d. Internal diameter of hydrant barrel; e. Hydrant discharge outlet coefficient; and f. Procedures and policies of hydrant locations
8.	Identify the available fire flows in various areas.
9.	Identify problems related to flows from dead-end water mains.
10.	Given reference material, identify and explain the approximate pressure-discharge relationship for various water pipe sizes.

Lecture

Instructor Equipment List

Projection screen
Chalkboard or marker board
Overhead projector
Slide projector
TV/VCR

Projection screen
Chalkboard or marker board
Overhead projector
Slide projector
TV/VCR
Pumper
Pumper service test equipment

Old FRT Number: FRT 141

Skills

Instructor Equipment List

Lecture	Skill	Fractional Credit
1	0	0.1

Course Description

This is an advanced course designed to instruct the student in the proper use of foam, the equipment used to make foam, and the hydraulics used in creating foam.

Prerequisites: FRS 2023 or Consent

Corequisite: None

Task List

1.	Define the 4 methods by which foam prevents or controls a hazard.
2.	Define the principle by which foam is generated.
3.	Define common causes for the poor generation of foam and identify the procedures for correcting each.
4.	Define the difference between hydrocarbon and polar solvent fuels and identify the type of foam concentrate required for each fuel.
5.	Define the advantages, characteristics, and precautions for use of the following types of foam: <ol style="list-style-type: none"> a. Protein; b. Fluoroprotein; c. Film forming Fluoroprotein (FFFP); d. Aqueous film forming foam (AFFF); e. Hazardous materials vapor mitigating foam; f. Medium and high-expansion foam; and g. Class "A" foams.
6.	Define the precautions that must be taken when using high expansion foam to attack structural fires.

Instructor Equipment List

None

Student Equipment List

None

Old FRT Number: 405 / FRT 142

Lecture	Skill	Fractional Credit
1	0	0.1

Course Description

This advanced course reviews salvage methods and operating procedures that further reduce fire, water, and smoke damage during and after fires.

Prerequisites: FRS 1043 or Consent

Corequisite: None

Task List

1.	Identify the purpose of salvage and its value to the public and the fire department.
2.	Demonstrate 2 folds and rolls for salvage covers.
3.	Demonstrate 2 methods of deploying salvage covers to cover property.
4.	Demonstrate the construction and use of a water chute.
5.	Demonstrate the construction and use of a water catchall.
6.	Demonstrate the covering or closing of building openings, including doors, windows, floors and roofs.
7.	Demonstrate the removal of debris and the removal and routing of water from a structure.
8.	Demonstrate the procedures of inspection, cleaning, and maintaining salvage equipment.

Instructor Equipment List

Assorted hand tools
Ventilation equipment
Salvage equipment

Student Equipment List

Full protective equipment
SCBA

Old FRT Number: 415 / FRT 143

