

Lecture	Skill	Fractional Credit
15	2	1.1

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

<b>Task List</b>	
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: 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: 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

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

**Old FRT Number: FRT 141**

**Skills**

**Instructor Equipment List**