

COMMON COURSE NUMBER: FFP 2302

COURSE TITLE: Fire Apparatus and Procedures

CREDIT HOURS: 3

CONTACT HOURS BREAKDOWN:

Lecture/Discussion	<u> 48 </u>
Lab	<u> 00 </u>
Other	<u> 00 </u>
Contact Hours/Week	<u> 3 </u>

CATALOG COURSE DESCRIPTION:

Prerequisite: None

Corequisite: None

Course offers study in evolution of fire apparatus, apparatus construction, pumps and pump accessories, pumping procedures, pump tests, trouble shooting, aerial ladders, aerial platforms, maintenance, driving fire apparatus.

General Education Requirements - Associate of Arts Degree, meets Area(s):
General Education Requirements - Associate in Science Degree, meets Area(s):

UNIT TITLES:

1. Evolution of Fire Apparatus
2. Fire Fighting Apparatus, Construction, and Equipment
3. Pump Theory and Construction and Pump Accessories
4. Fire Fighting Hydraulics and Pumping Procedures
5. Engine Company Procedures and Fireground Operations
6. Relay Operations, including Drafting Water
7. Aerial Ladders, Platforms, Water Towers, and Cold Weather Operations
8. Apparatus Maintenance and Safe Driving Procedures

I. Course Overview:

Upon successful completion of this course, the students should be able to use fire department apparatus and equipment effectively.

II. Units:

Unit 1. Evolution of Fire Apparatus

General Outcome:

1.0 The students should be able to trace the development of fire apparatus from its beginnings to the present day.

Specific Learning Outcomes:

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

- 1.1 Describe the major differences between the "old" and the "new" apparatus.
- 1.2 Describe the construction of modern pumps vs older types.
- 1.3 Describe the "horse" era in the fire department as well as equipment evolution.

Unit 2. Fire Fighting Apparatus, Construction and Equipment

General Outcome:

2.0 The students should be able to discuss the construction of the modern fire apparatus and equipment used.

Specific Learning Outcomes:

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

- 2.1 Describe a variety of modern apparatus.
- 2.2 Explain how to purchase fire apparatus.
- 2.3 Describe vehicle carrying capacity.
- 2.4 Describe instruments used on fire apparatus.
- 2.5 Describe electrical power outlets and use.
- 2.6 Describe the principle of educators.
- 2.7 Describe automatic nozzles.

Unit 3. Pump and Construction and Pump Accessories

General Outcome:

3.0 The students should be able to explain how fire pumps work and describe their construction and that of the pump accessories.

Specific Learning Outcomes:

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

- 3.1 Describe positive displacement pumps, piston pumps, rotary type pumps.
- 3.2 Describe theoretical pump capacity, priming devices, and pressure control valves and use.
- 3.3 Describe the use of governors and automated flow control.

Unit 4. Fire Fighting Hydraulics and Pumping Procedures

General Outcome:

4.0 The students should be able to discuss pumping procedures, pumper tests, and pumper trouble shooting.

Specific Learning Outcomes:

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

- 4.1 Discuss the principles of hydraulics.
- 4.2 Explain the use of hydraulics on the fireground.
- 4.3 Describe the use of the hydraulics calculator.
- 4.4 Describe pumping procedures on all types.
- 4.5 Identify the type of tests made on pumpers.
- 4.6 Explain where to look for pump trouble.
- 4.7 Correct priming pump failure.

Unit 5. Engine Company Procedures and Fireground Operations

General Outcome:

5.0 The students should be able to explain engine company procedures on the fireground.

Specific Learning Outcomes:

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

- 5.1 Describe tactics and strategy in pumper placement.
- 5.2 Describe standard operating procedures.
- 5.3 Describe effective fire streams, available water supply sources, and how to maneuver fire apparatus.
- 5.4 Explain hydrant hook-up.
- 5.5 Identify where and how to make the initial attack.

Unit 6. Relay Operations, Including Drafting Water

General Outcome:

6.0 The students should be able to explain how to relay water from one pumper to another.

Specific Learning Outcomes:

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

- 6.1 Recognize situations calling for relay operations.
- 6.2 Relate the factors affecting relay set-up.
- 6.3 Explain the importance of relay pumpers placement.
- 6.4 Discuss the principle of lift, priming procedures, and portable pumps.
- 6.5 Describe unusual drafting situations.

Unit 7. Aerial Ladders, Platforms, Water Towers, and Cold Weather Operations.

General Outcome:

7.0 The students should be able to operate each piece of equipment and explain how weather conditions affect such operations and road conditions.

Specific Learning Outcomes:

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

- 7.1 Describe the operation of each type of apparatus and when to use it.
- 7.2 Describe the construction of each piece.
- 7.3 Maneuver an aerial ladder.
- 7.4 Maintain each piece of apparatus.
- 7.5 Explain the use of heavy water streams using apparatus.
- 7.6 Identify problems in winter driving.
- 7.7 Discuss winter maintenance of each.

Unit 8. Apparatus Maintenance and Safe Driving Procedures

General Outcome:

8.0 The students should be able to discuss maintenance procedures and their importance.

Specific Learning Outcomes:

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

- 8.1 Describe a maintenance schedule.
- 8.2 Discuss crank case ventilation, chassis lubrication and its importance, maintenance of air filters, and the cooling system.
- 8.3 Explain how to drive defensively.
- 8.4 Describe driving techniques.
- 8.5 Identify tiller-man problems in driving ladder trucks.