

COURSE OUTLINE

Fire Technology 108
Fire Apparatus and Equipment

I. Catalog Statement

Fire Technology 108 covers the general technical knowledge of driving laws, driving techniques, construction, and operation of pumping engines, ladder trucks, aerial platforms, specialized equipment, and apparatus maintenance.

Total Lecture Units: 3.0

Total Course Units: 3.0

Total Lecture Hours: 48.0

Total Faculty Contact Hours: 48.0

Prerequisite: Fire Technology 101 or equivalent.

II. Course Entry Expectations

Skills Levels Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 3.

Prior to enrolling in the course, the student should be able to:

1. describe and discuss the components of the history and philosophy of the modern day fire service;
2. analyze the basic components of fire as a chemical reaction, the major phases of fire, and examine the main factors that influence fire spread and behavior;
3. differentiate between fire service training and education; fire protection certificate program and a fire service degree program; and explain the value of education in the fire service;
4. list and describe the major organizations that provide emergency response service and illustrate how they interrelate;
5. identify fire protection and emergency-service careers in both the public and in the private sector;
6. synthesize the role of national, state and local support organizations in fire protection and emergency services;
7. discuss and describe the scope, purpose, and organizational structure of fire and emergency services;
8. describe the common types of fire and emergency services facilities, equipment, and apparatus;
9. compare and contrast effective management concepts for various emergency situations;

10. identify and explain the components of fire prevention including code enforcement, public information, and public and private fire protection systems.

III. Course Exit Standards

Upon successful completion of the required coursework, the student should be able to:

1. demonstrate knowledge of vehicle code and local laws and department rules;
2. demonstrate correct driving techniques and placement of apparatus at emergencies;
3. construct, maintain and operate pumping apparatus;
4. demonstrate skills in the construction, operation, and maintenance of aerial ladder trucks.

IV. Course Content

Total Faculty Contact Hours = 48

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|---|----------|
| A. Driving | 8 hours |
| 1. State vehicle code | |
| 2. Local codes | |
| 3. Department rules | |
| 4. Driving techniques | |
| 5. Placement of apparatus at emergencies | |
| B. Construction, Operation, and Maintenance of Pumping Apparatus | 12 hours |
| 1. Construction | |
| 2. Maintenance | |
| 3. Pumping techniques | |
| 4. Hydrant operations | |
| 5. Pumping techniques | |
| 6. Tank operations | |
| 7. Relay pumping | |
| 8. Water supply | |
| C. Construction, Operation, and Maintenance of Aerial Ladder Trucks | 12 hours |
| 1. Construction | |
| 2. Maintenance | |
| 3. Operating techniques | |
| 4. Stabilizing | |
| 5. Safety precautions | |
| 6. Loading | |
| 7. Water tower | |
| D. Construction, Operation, and Maintenance of Aerial Platforms | 12 hours |
| 1. Construction | |
| 2. Maintenance | |
| 3. Operation techniques | |
| 4. Stabilization | |
| 5. Safety precautions | |

6. Loading
7. Water tower

E. Specializing Equipment

6 hours

V. Methods of Instruction

The following methods of instruction may be used in the course:

1. lecture;
2. demonstration;
3. films;
4. simulations.

VI. Out of Class Assignments

The following out of class assignments may be used in the course:

1. individual projects (i.e. written assignments, reading reports);
2. group projects (i.e. homework problems, problem solving demonstrations, discussion on textbook topics).

VII. Methods of Evaluation

The following methods of evaluation may be used in the course:

1. quizzes;
2. midterm examination;
3. final examination.

VIII. Textbooks

Weider, Michael A., Brakhage, Cynthia S., International Fire Service Training Association (IFSTA), Pumping Apparatus: Driver Operator's Handbook, [2nd Edition]. IFSTA, 2006.
10th Grade Textbook Reading Level. ISBN: 0879392789

IX. Student Learning Outcomes

1. Student will be able to demonstrate knowledge of vehicle code and local laws and department rules.
2. Student will be able to demonstrate correct driving techniques and placement of apparatus at emergencies.
3. Student will be able to construct, maintain and operate pumping apparatus.
4. Student will be able to demonstrate skills in the construction, operation, and maintenance of aerial ladder trucks.