Pennsylvania State Fire Academy

1150 Riverside Drive
Lewistown, PA 17044-1979
(717) 248 1115 In PA: 1 800 459 4096 FAX (717) 248 3580

Minimum Standard for Accreditation (MSA)

July 1992
Revised 1/06

Course Title: Aerial Apparatus Operations (AELA)

Length of Course: 16 Hours **Lecture/Lab Breakdown:** 6/10

Prerequisites: IST or ELIS

Referenced Texts: Current Editions of IFSTA "Aerial Apparatus"; IFSTA "Aerial Apparatus Study Guide"; NFPA "Fire Officer's Guide to Aerial Apparatus"

Course Goal: This course will introduce the student to the basic operating principles of fire service aerial equipment.

Description of Course: Students attending this course will, through classroom work and hands-on practice of basic skills, be introduced to the operational theory of aerials, aerial towers, and elevating platforms. Basic system design, safety, spotting/stabilization, operation, and elevated master stream operations are all covered.

Description of Methodology to be used: (Brief) A combination of lecture, discussion, demonstration, and supervised practice.

Student Equipment/Supply Needs: Pen/pencil, notebook suitable for classroom/ field use, complete set of fire fighter protective clothing (SCBA not required).

Equipment/Audiovisual/Supply requirements: Classroom with adequate seating, chalkboard/flip chart; AV equipment as appropriate for audiovisuals selected. Clear area suitable for practice of aerial device operating, including elevated master stream. (area should include clear space free of obstructions and building face where practice "sets" of the device can be made). Water supply and pumper for elevated master stream supply.
Where class is for a general audience, every effort should be made to obtain at least one representative sample of each major category (aerial ladder, aerial tower, articulating elevated platform) for demonstration and student operation. Where class is held for a specific department or fire company, the apparatus owned by that organization should be used. Where multiple aerial devices are used simultaneously, one assistant instructor for each device should be provided during practical operation. Times shown are based on a class of 20 students. A great number of audiovisual productions exist on this topic. Instructors/ educational training agencies may choose those that, in their opinion, best reinforce the objectives.
(continued)

COURSE OUTLINE

Time	Content
1:15	Registration/Introduction to Aerial Operations/Safety
:45	Basic Aerial Apparatus Design
2:00	Spotting and Stabilizing
1:30	Basic Operating Procedures
2:15	Student Practice - Basic Operation
:15	Summary and Review - Basic Aerial Operations
2:00	Student Practice - Practical Evolution
1:00	Elevated Master Stream Principles
1:00	Maintenance
3:30	Elevated Master Stream Practices
:30	Written Test/Summary

Competency Evaluation Mechanism (Brief description-attach copy): 20-30 question written examination (developed by instructor or educational training agency) on knowledge objectives; instructor assessment of student mastery of practical skills.

Course Objectives (specific): Upon completion of this course, the student shall, to the satisfaction of the instructor:

1. Identify and describe the distinguishing characteristics of three (3) types of aerial apparatus.
2. Identify and relate the function of the hydraulic system and its major sub-components.
3. Identify at least three (3) considerations in safely spotting an aerial apparatus for work.
4. Identify at least four (4) conditions contributing to unsafe stabilization of an aerial device and at least one (1) method of overcoming each.
5. Describe the effect of load, angle, and topography on safe aerial device operation.
6. Given an aerial device supplied to the class or with which the student is familiar, correctly position, stabilize and operate the aerial device within the parameters afforded by the scenario and the manufacturer's manual for the device.
7. Demonstrate or describe the procedure for (a) Rigging a ladder pipe for operation (b) Rigging an aerial platform (tower or articulated) for elevated master stream service.
8. Calculate the base pressure for any given aerial device.
9. State at least three (3) safety procedures necessary before turning an elevated master stream into a structure.
10. Describe the major features of an aerial apparatus maintenance program.
11. List the major elements of an effective apparatus maintenance program.
12. Perform an operator readiness inspection on a given aerial device in accordance with the manufacturer's recommendations for the device in question.