



# Pennsylvania State Fire Academy

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## Minimum Standard for Accreditation (MSA)

February 1993

**Course Title:** Engine Company Operations (ECOP)

**Length of Course:** 16 Hours

**Lecture/Lab Breakdown:** 4.5/11.5

**Prerequisites:** EBM

**Referenced Texts:** NFPA Quarterly, January 1952; "British Tests of Fibreboard", Firemen, September 1962; "Time, The Yardstick of Fire Control"; NFPA: "Fire Attack I", Kimball; NFPA: "Fire Attack II", Kimball; NFPA: 1901 Pumper Fire Apparatus; NFPA: 1410 Training Standards on Initial Fire Attack; NFPA: 1231 Water Supplies for Rural and Suburban Fire Fighting; Brady: Engine Company Operations, Harold Richmann; ISFSI: "Qualitative Fire Behavior", Floyd W. Nelson; ISFSI: "Rural Fireground Operations I"; ISFSI: "Rural Fireground Operations II", Larry Davis; IFSTA "Essentials of Fire Fighting".

**Course Goal:** Participants in this course will be given the knowledge and skills necessary to operate on a fireground as a member of an engine company.

**Description of Course:** A discussion of fire behavior and spread in structures, methods of calculating needed fire flow and organizing and equipping engine company is followed by a series of "hands on" drills involving various engine company evolutions.

**Description of Methodology to be used: (Brief)** A combination of lecture/discussion is followed by field demonstrations and drills.

**Student Equipment/Supply Needs:** Full T.O.G., Notebook and Pencil

**Equipment/Audiovisual/Supply requirements:** Chalkboard, Overhead Transparency Projector, Slide Projector with Screen, Two (four) well equipped engines, water supply (hydrant preferred), place to work where traffic disruption and water discharge will not be a problem.

### **COURSE OUTLINE** **(General - Not Detailed)**

<b><u>Time</u></b>	<b><u>Content</u></b>	<b><u>Instructor</u></b> <b><u>Notes</u></b>
:25	Introduction	
:75	Fire Behavior in Structures	

(continued)

## MINIMUM STANDARDS FOR ACCREDITATION

### Engine Company Operations (ECOP)

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1:00	Fire Flow Determination and Flow Development Considerations
1:00	Engine Layout and Equipment
1:00	Engine Company Organization and Riding Position Assignments
1:50	Basic Engine Company Operation Drill - Introduction and Walk Through
1:50	Single Piece Engine Company Drills
1:00	Clean Up and Reservice
1:00	Two Piece and Multiple Piece Company Principles of Operation
2:00	Two Piece Engine Company Drills
2:00	Multiple Piece Engine Company Drills
1:00	Clean Up and Reservice
:50	Critique and Examination

**Competency Evaluation Mechanism (Brief description-attach copy):** (1) Periodic direct questioning; (2) 25 question written examination; and (3) Return demonstration during field operations.

**Course Objectives (specific):** Upon successful completion of this course, the student will:

1. Define an incipient fire; rollover; flashover; a fuel limited fire; an oxygen limited fire; backdrafts and other terms relating to fire behavior and tell how each impacts on fire spread in a structure.
2. Identify at least two means of estimating fire flow requirements.
3. Explain the relationship existing between pump sizes, hoseline sizes, and nozzle sizes and their impact on ultimate fire flow.
4. Define the considerations necessary for laying out and equipping a multi-function engine company.
5. Identify the manning requirements for operating an engine company and establish riding position assignments.
6. Demonstrate proficiency by operating as a member of a wagon company and an engine company in various single/two/multiple piece company operations.

**Questions/Comments: Contact Rita Wessel, Curriculum Specialist: Extension 106  
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