

Fire Apparatus and Equipment

Course Design

2002-2003

Course Information

Organization: EASTERN ARIZONA COLLEGE
Division: ITE
Course Number: FSC 120
Title: Fire Apparatus and Equipment
Credits: 3
Developed by: Dr. Barbara Ganz
Lecture/Lab Ratio: 3 Lec/0 Lab
Transfer Status: Transferable to ASU East-BAS; Non-Transferable to UofA and NAU

Extended Registration

Class: No
CIP Code: 43.0203
Assessment Mode: Pre-Post Test with a total of 10 possible points
Semester Taught: Offered upon request.

Gen. Ed. Area: None

Separate Lab: No

Awareness Course: NO

Intensive Writing

Course: NO

Prerequisites: 1. None

Educational Value: This course is designed for fire department personnel and students interested in understanding the principles of automotive apparatus and fire equipment.

Goals: 1. To familiarize the firefighter with a variety of mechanical, automotive, and hand held fire fighting tools and vehicles.

Description: This course will familiarize the student with automotive apparatus (pumpers, aerial ladders, lift platforms, hose wagons, transports and utility vehicles), water towers, heavy auxiliary mechanical equipment and appliances, generators, compressors, rescue and forcible entry tools and cutting torches.

Textbooks: None

Supplies: None

Competencies and Performance Standards

1. Awareness of evolution and development of firefighting equipment to current technology.			
<i>Domain--Cognitive</i>	<i>Level--Evaluation</i>	<i>Importance--Useful</i>	<i>Difficulty--Medium</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner will discuss the history of fire equipment. • learner will describe the circumstances that helped improve fire equipment and apparatus. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • on a written test. 	Learning Objectives: <ol style="list-style-type: none"> Discuss the history of fire equipment. Describe the circumstances that helped improve fire equipment and apparatus. 	
2. Define type and used of fire apparatus and equipment and how it is constructed.			
<i>Domain--Cognitive</i>	<i>Level--Evaluation</i>	<i>Importance--Important</i>	<i>Difficulty--Medium</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner will describe how fire apparatus are designed to assist in effective firefighting. • learner will describe how to operate fire apparatus. • learner will discuss the proper maintenance and repair of fire apparatus. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • on a written test. 	Learning Objectives: <ol style="list-style-type: none"> Describe how fire apparatus are designed to assist in effective firefighting. Describe how to operate fire apparatus. Discuss the proper maintenance and repair of fire apparatus. 	
3. Describe the procedures, techniques, and skills needed to operate firefighting equipment.			
<i>Domain--Cognitive</i>	<i>Level--Synthesis</i>	<i>Importance--Essential</i>	<i>Difficulty--Medium</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner will describe how pumps and pump accessories should be operated and maintained. • learner will describe proper pumping procedures. • learner will describe how to troubleshoot firefighting equipment. • learner will discuss how to operate aerial ladders and platforms. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • on a written test. 	Learning Objectives: <ol style="list-style-type: none"> Describe how pumps and pump accessories should be operated and maintained. Describe proper pumping procedures. Describe how to troubleshoot firefighting equipment. Discuss how to operate aerial ladders and platforms. 	

4. Discuss how to maintain firefighting equipment.			
<i>Domain--Affective</i>	<i>Level--Organizing</i>	<i>Importance--Essential</i>	<i>Difficulty--Medium</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner will discuss the importance of preventive maintenance. • learner will describe how to maintain firefighting equipment and apparatus in the station or the field. • learner will describe routine care of firefighting equipment. • learner will demonstrate basic maintenance skills in simulated equipment malfunctions. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • on a written test. 	Learning Objectives: <ol style="list-style-type: none"> Discuss the importance of preventive maintenance. Describe how to maintain firefighting equipment and apparatus in the station or the field. Describe routine care of firefighting equipment. Demonstrate basic maintenance skills in simulated equipment malfunctions. 	
5. Develop competence in driving, operating and maintaining firefighting equipment.			
<i>Domain--Cognitive</i>	<i>Level--Evaluation</i>	<i>Importance--Essential</i>	<i>Difficulty--Medium</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner will demonstrate proper driving techniques and procedures. • learner will demonstrate competence in performing routine maintenance in a simulated on-the-scene operation. • learner will demonstrate competence in operating firefighting equipment in a simulated on-the-scene operation. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • in a simulated firefighting situation. 	Learning Objectives: <ol style="list-style-type: none"> Demonstrate proper driving techniques and procedures. Demonstrate competence in performing routine maintenance in a simulated on-the-scene operation. Demonstrate competence in operating firefighting equipment in a simulated on-the-scene operation. 	

Types of Instruction

Classroom Presentation

Grading Policy

Evaluation Methods: Grades will be based on a simulated exercise, class participation, and written tests. The Post-Test will count as 10% of the final grade.

Grading Scale:

Grade	Requirement
A	100-90%
B	89-80%
C	79-70%
D	69-60%
F	Below 60%

Learning Plans

Learning Plan 1-- Learning Plan 1- 4

Overview: The purpose of these lessons is to give the student an appreciation of the history of modern firefighting equipment. The student will also learn how fire apparatus and equipment are constructed, operated, and maintained. The students will be encouraged to break into small work groups to discuss class information.

- Competency:** 1. **Awareness of evolution and development of firefighting equipment to current technology.**
- Competency:** 2. **Define type and used of fire apparatus and equipment and how it is constructed.**
- Competency:** 3. **Describe the procedures, techniques, and skills needed to operate firefighting equipment.**
- Competency:** 4. **Discuss how to maintain firefighting equipment.**

Learning Activities:

- _____1. READ and study assignments.
- _____2. ASK/ANSWER question about procedures and techniques.
- _____3. OBSERVE instructor demonstrations.
- _____4. DISCUSS concepts, ideas, and issues with classmates in small groups and then report back to larger group.

- Performance Assessment Activities:**
- _____1. Complete homework assignments.
- _____2. Complete quiz.
- _____3. Participate in class.

Learning Plan 2-- Learning Plan 2

Overview: In this lesson students will practice skills at the fire station and then in a simulated firefighting exercise.

- Competency:** 5. **Develop competence in driving, operating and maintaining firefighting equipment.**

Learning Activities:

- _____1. READ and study assignments.

- _____ 2. ASK/ANSWER question about procedures and techniques.
- _____ 3. OBSERVE instructor demonstrations.
- _____ 4. DISCUSS concepts, ideas, and issues with classmates in small groups and then report back to larger group.
- _____ 5. PERFORM routine maintenance tasks under supervision.
- _____ 6. DRIVE fire equipment.
- _____ 7. PARTICIPATE in a simulated exercise to demonstrate proficiency.

**Performance
Assessment Activities:**

- _____ 1. Complete homework assignments.
- _____ 2. Complete quiz.
- _____ 3. Participate in class.
- _____ 4. Complete Post-Test.
- _____ 5. Follow a maintenance checklist accurately and completely.
- _____ 6. Drive fire equipment for 2 hours demonstrating proper techniques and procedures.
- _____ 7. Complete a simulated firefighting exercise and evaluate performance in group.