

# Fire Protection Systems

## Course Design

### 2002-2003

#### Course Information

<b>Organization:</b>	EASTERN ARIZONA COLLEGE
<b>Division:</b>	ITE
<b>Course Number:</b>	FSC 140
<b>Title:</b>	Fire Protection Systems
<b>Credits:</b>	3
<b>Developed by:</b>	Dr. Barbara Ganz
<b>Lecture/Lab Ratio:</b>	3 Lec/0 Lab
<b>Transfer Status:</b>	Transferable to ASU East-BAS; Non-Transferable to UofA or NAU
<b>Extended Registration</b>	
<b>Class:</b>	No
<b>CIP Code:</b>	43.0203
<b>Assessment Mode:</b>	Pre-Post Test with a total of 10 possible points
<b>Semester Taught:</b>	Offered upon request.
<b>Gen. Ed. Area:</b>	None
<b>Separate Lab:</b>	No
<b>Awareness Course:</b>	NO
<b>Intensive Writing</b>	
<b>Course:</b>	NO
<b>Prerequisites:</b>	1. None
<b>Educational Value:</b>	This course is designed for fire department personnel and interested students who wish the learn the principles of fire protection systems.
<b>Goals:</b>	1. The goal of this course is to give firefighters an overview of fire protection systems.
<b>Description:</b>	In this course the student will learn the principles of fire protection systems. Includes portable and fixed fire extinguishing equipment, automatic sprinkler and deluge systems, rate of temperature rise and smoke detecting devices and alarm systems.
<b>Textbooks:</b>	None
<b>Supplies:</b>	None

## Competencies and Performance Standards

<b>1. Describe the basic principles involved in the design and operation of suppression and detection systems found in most occupancies.</b>			
<i>Domain--Cognitive      Level--Evaluation      Importance--Important      Difficulty--Medium</i>			
<b>Criteria--</b> Performance will be satisfactory when: <ul style="list-style-type: none"> <li>• learner can define combustion.</li> <li>• learner can define suppression.</li> <li>• learner can discuss suppression agents and principles.</li> </ul>	<b>Conditions--</b> Competence will be demonstrated: <ul style="list-style-type: none"> <li>• on a written test.</li> </ul>	<b>Learning Objectives:</b> <ol style="list-style-type: none"> <li>Define combustion.</li> <li>Define suppression.</li> <li>Discuss suppression agents and principles.</li> </ol>	
<b>2. Discuss the limitations and potential of the various systems, as a basis for recommending their application and use.</b>			
<i>Domain--Cognitive      Level--Synthesis      Importance--Important      Difficulty--Medium</i>			
<b>Criteria--</b> Performance will be satisfactory when: <ul style="list-style-type: none"> <li>• learner can describe the various types of extinguishers.</li> <li>• learner can describe the various types of foam, dry chemical, and CO2 systems.</li> <li>• learner can describe the characteristics and effects of halogenated agents.</li> <li>• learner can describe the design and components of explosion suppression systems.</li> </ul>	<b>Conditions--</b> Competence will be demonstrated: <ul style="list-style-type: none"> <li>• on a written test.</li> </ul>	<b>Learning Objectives:</b> <ol style="list-style-type: none"> <li>Describe the various types of extinguishers.</li> <li>Describe the various types of foam, dry chemical, and CO2 systems.</li> <li>Describe the characteristics and effects of halogenated agents.</li> <li>Describe the design and components of explosion suppression systems.</li> </ol>	
<b>3. Acquire basic knowledge required to recognize and safely inspect the more common in-use systems.</b>			
<i>Domain--Affective      Level--Valuing      Importance--Important      Difficulty--Medium</i>			
<b>Criteria--</b> Performance will be satisfactory when: <ul style="list-style-type: none"> <li>• learner can discuss the purpose and principles of fire detection systems.</li> <li>• learner can describe residential fire detection systems and how they differ from industrial systems.</li> <li>• learner can describe the characteristics and operation of thermal systems.</li> <li>• learner can describe the characteristics and operation of smoke detection equipment.</li> <li>• learner can identify the principles of flame detection.</li> </ul>	<b>Conditions--</b> Competence will be demonstrated: <ul style="list-style-type: none"> <li>• on a written test.</li> </ul>	<b>Learning Objectives:</b> <ol style="list-style-type: none"> <li>Discuss the purpose and principles of fire detection systems.</li> <li>Describe residential fire detection systems and how they differ from industrial systems.</li> <li>Describe the characteristics and operation of thermal systems.</li> <li>Describe the characteristics and operation of smoke detection equipment.</li> <li>Identify the principles of flame detection.</li> </ol>	

## Types of Instruction

Classroom Presentation

## Grading Policy

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

**Grading Scale:**

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

# Learning Plans

## Learning Plan 1-- Learning Plan 1

**Overview:** The purpose of these lessons are to help the student gain an understanding of fire protection systems.

- Competency:** 1. **Describe the basic principles involved in the design and operation of suppression and detection systems found in most occupancies.**
- Competency:** 2. **Discuss the limitations and potential of the various systems, as a basis for recommending their application and use.**
- Competency:** 3. **Acquire basic knowledge required to recognize and safely inspect the more common in-use systems.**

### Learning Activities:

- \_\_\_\_\_ 1. READ and study assignments.
- \_\_\_\_\_ 2. DISCUSS concepts, ideas, and issues with classmates.
- \_\_\_\_\_ 3. ANSWER objective questions.
- \_\_\_\_\_ 4. PARTICIPATE in a class discussion.
- \_\_\_\_\_ 5. REVIEW examples or scenarios in which principles and guidelines are applied in varying contexts.

### Performance

### Assessment Activities:

- \_\_\_\_\_ 1. Complete homework assignments.
- \_\_\_\_\_ 2. Complete quiz.
- \_\_\_\_\_ 3. Participate in class.
- \_\_\_\_\_ 4. Complete the PrePost-Test.