

Arson Detection and Investigation

Course Design

2002-2003

Course Information

Organization:	EASTERN ARIZONA COLLEGE
Division:	Occupational
Course Number:	FSC 145
Title:	Arson Detection and Investigation
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 or NAU
Extended Registration	
Class:	No
CIP Code:	43.0203
Assessment Mode:	Pre-Post Test with a total of 10 points possible
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 arson detection and investigation.
Goals:	1. The goal of this course is prepare fire fighters to gain a background of arson and arson investigation to prepare them as witnesses as necessary.
Description:	Basic principles of arson investigation. Includes an introduction to fire investigation, laws, fire causes, determining point of origin, evidence, fire setters, case investigation and preparation, and courtroom demeanor and testimony.
Textbooks:	None
Supplies:	None

Competencies and Performance Standards

1. Recognize the tremendous loss of life and property from accidental and incendiary fires.			
<i>Domain--Cognitive</i>	<i>Level--Evaluation</i>	<i>Importance--Important</i>	<i>Difficulty--Low</i>
<p>Criteria--Performance will be satisfactory when:</p> <ul style="list-style-type: none"> • learner can discuss the importance of arson investigation training to reduce such fires. • learner can describe how fire loss effects the whole community at the local, state, and national level. 	<p>Conditions--Competence will be demonstrated:</p> <ul style="list-style-type: none"> • 1. on a written test. 	<p>Learning Objectives:</p> <ul style="list-style-type: none"> a. Discuss the importance of arson investigation training to reduce such fires. b. Describe how fire loss effects the whole community at the local, state, and national level. 	
2. Describe the investigation techniques of the combustion process.			
<i>Domain--Cognitive</i>	<i>Level--Evaluation</i>	<i>Importance--Important</i>	<i>Difficulty--High</i>
<p>Criteria--Performance will be satisfactory when:</p> <ul style="list-style-type: none"> • learner can describe the responsibilities of firefighter in fire investigations. • learner can describe the proper methods to collect and preserve evidence. • learner can describe the chain of custody involved in properly handling evidence. • learner can discuss how laboratory analysis of evidence is conducted. • learner can discuss the legal implications and considerations when dealing with arson or suspected arson. • learner can describe the investigation techniques of the combustion process used to assist the relatively untrained investigator or attorney. 	<p>Conditions--Competence will be demonstrated:</p> <ul style="list-style-type: none"> • 1. on a written test. 	<p>Learning Objectives:</p> <ul style="list-style-type: none"> a. Describe the responsibilities of firefighter in fire investigations. b. Describe the proper methods to collect and preserve evidence. c. Describe the chain of custody involved in properly handling evidence. d. Discuss how laboratory analysis of evidence is conducted. e. Discuss the legal implications and considerations when dealing with arson or suspected arson. f. Describe the investigation techniques of the combustion process used to assist the relatively untrained investigator or attorney. 	

3. Discuss the laws and codes pertaining to fire investigation.			
<i>Domain--Cognitive</i>	<i>Level--Synthesis</i>	<i>Importance--Important</i>	<i>Difficulty--Medium</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner can define the terms arrest, search, and seizure in relation to arson. • learner can compare and contrast a felony and a misdemeanor. • learner can discuss the insurance laws relating to arson. • learner can describe other laws relating to fire investigation. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • 1. on a written test. 	Learning Objectives: <ol style="list-style-type: none"> a. Define the terms arrest, search, and seizure in relation to arson. b. Compare and contrast a felony and a misdemeanor. c. Discuss the insurance laws relating to arson. d. Describe other laws relating to fire investigation. 	
4. Demonstrate methods used in the investigation into the cause of a fire, determine defects responsible for a fire, and pinpoint a firestarter.			
<i>Domain--Psychomotor</i>	<i>Level--Practice</i>	<i>Importance--Essential</i>	<i>Difficulty--High</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner can describe the steps or methods used in determining a firestarter. • learner can identify defects that might be responsible for a fire. • learner can describe the characteristics of an accidental fire. • learner can discuss how and under what conditions persons intentionally set fires. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • 1. on a written test. 	Learning Objectives: <ol style="list-style-type: none"> a. Describe the steps or methods used in determining a firestarter. b. Identify defects that might be responsible for a fire. c. Describe the characteristics of an accidental fire. d. Discuss how and under what conditions persons intentionally set fires. 	
5. Describe how fire burns and the differences in ways they burn.			
<i>Domain--Affective</i>	<i>Level--Valuing</i>	<i>Importance--Important</i>	<i>Difficulty--Medium</i>
Criteria-- Performance will be satisfactory when: <ul style="list-style-type: none"> • learner can describe how fires burn. • learner can compare and contrast the different characteristics of fires and how they burn. 	Conditions-- Competence will be demonstrated: <ul style="list-style-type: none"> • 1. on a written test. 	Learning Objectives: <ol style="list-style-type: none"> a. Describe how fires burn. b. Compare and contrast the different characteristics of fires and how they burn. 	

<p>6. List and identify the agencies involved in arson investigation and describe the techniques used to achieve cooperation and information from these agencies.</p> <p><i>Domain--Affective Level--Organizing Importance--Important Difficulty--Medium</i></p>		
<p>Criteria--Performance will be satisfactory when:</p> <ul style="list-style-type: none"> • learner can list the cooperative agencies that assist in arson investigations. • learner can discuss the various sources of information that are used in arson investigation. 	<p>Conditions--Competence will be demonstrated:</p> <ul style="list-style-type: none"> • 1. on a written test. 	<p>Learning Objectives:</p> <ol style="list-style-type: none"> List the cooperative agencies that assist in arson investigations. Discuss the various sources of information that are used in arson investigation.
<p>7. Collect different kinds of evidence, prepare it, keep it secured, and present the evidence in arson situations.</p> <p><i>Domain--Psychomotor Level--Practice Importance--Essential Difficulty--High</i></p>		
<p>Criteria--Performance will be satisfactory when:</p> <ul style="list-style-type: none"> • learner can discuss how physical evidence is collected during an arson investigation. • learner can compare and contrast circumstantial and direct evidence. • learner can describe how note taking and reports should be properly written and documented. • learner can describe how photography can be used as evidence. • learner can discuss how to interview witnesses. • learner can describe how to properly and accurately sketch and diagram the scene. 	<p>Conditions--Competence will be demonstrated:</p> <ul style="list-style-type: none"> • 1. on a written test. 	<p>Learning Objectives:</p> <ol style="list-style-type: none"> Discuss how physical evidence is collected during an arson investigation. Compare and contrast circumstantial and direct evidence. Describe how note taking and reports should be properly written and documented. Describe how photography can be used as evidence. Discuss how to interview witnesses. Describe how to properly and accurately sketch and diagram the scene.

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:

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- 7

- Overview:** The purpose of these lessons will be to prepare firefighters to gain a background of arson and arson investigation through instructor guided discussions. The students should break often into smaller groups to analyze material and then be encouraged to share their findings with the larger group. The instructor should use meaningful personal examples of arson investigations they have experienced in their careers as firefighters to give reality and depth to textbook examples.
- Competency:** 1. **Recognize the tremendous loss of life and property from accidental and incendiary fires.**
- Competency:** 2. **Describe the investigation techniques of the combustion process.**
- Competency:** 3. **Discuss the laws and codes pertaining to fire investigation.**
- Competency:** 4. **Demonstrate methods used in the investigation into the cause of a fire, determine defects responsible for a fire, and pinpoint a firestarter.**
- Competency:** 5. **Describe how fire burns and the differences in ways they burn.**
- Competency:** 6. **List and identify the agencies involved in arson investigation and describe the techniques used to achieve cooperation and information from these agencies.**
- Competency:** 7. **Collect different kinds of evidence, prepare it, keep it secured, and present the evidence in arson situations.**

Learning Activities:

- _____ 1. READ and study assignments.
- _____ 2. ASK questions about investigative procedures.
- _____ 3. ANSWER questions about procedures and techniques.
- _____ 4. DISCUSS concepts, ideas, and issues with classmates.
- _____ 5. ANALYZE information in a small group setting and report back to larger group.

Performance

Assessment Activities:

- _____ 1. Complete homework assignments.
- _____ 2. Complete quiz.
- _____ 3. Complete Pre-Post Test.
- _____ 4. Participate in class.