

COURSE OUTLINE

**Fire Technology 111**  
**Fire Investigation Technology**

**I. Catalog Statement**

Fire Technology 111 offers an introduction to arson and incendiarism, arson laws, and types of incendiary fires. Methods of determining fire cause, recognizing and preserving evidence, interviewing and detaining witnesses. Procedures in handling juveniles, court procedure, and giving court testimony will also be covered.

Total Lecture Units: 3.0

**Total Course Units: 3.0**

Total Lecture Hours: 48.0

**Total Faculty Contact Hours: 48.0**

Prerequisite: Fire Technology 101 or equivalent.

**II. Course Entry Expectations**

Skills Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 3.

Prior to enrolling in the course, the student should be able to:

1. describe and discuss the components of the history and philosophy of the modern day fire service;
2. analyze the basic components of fire as a chemical reaction, the major phases of fire, and examine the main factors that influence fire spread and behavior;
3. differentiate between fire service training and education; fire protection certificate program and a fire service degree program; and explain the value of education in the fire service;
4. list and describe the major organizations that provide emergency response service and illustrate how they interrelate;
5. identify fire protection and emergency-service careers in both the public and in the private sector;
6. synthesize the role of national, state and local support organizations in fire protection and emergency services;
7. discuss and describe the scope, purpose, and organizational structure of fire and emergency services;
8. describe the common types of fire and emergency services facilities, equipment, and apparatus;

9. compare and contrast effective management concepts for various emergency situations;
10. identify and explain the components of fire prevention including code enforcement, public information, and public and private fire protection systems.

### **III. Course Exit Standards**

Upon successful completion of the required coursework, the student will be able to:

1. identify current arson and incendiarism trends;
2. describe legal right of firefighters;
3. research current laws of search and seizure;
4. review the laws of arson;
5. identify the types of incendiary fires;
6. develop correct interrogation methods in order to detail witnesses.

### **IV. Course Content**

**Total Faculty Contact Hours = 48**

- |   |         |
|---|---------|
| A. Introduction to Arson and Incendiarism | 5 hours |
| 1. Arson today                            |         |
| 2. Organized arson                        |         |
| 3. Legal rights of firefighters           |         |
| 4. Illegal search and seizure             |         |
| <br>                                      |         |
| B. The Laws of Arson                      | 5 hours |
| 1. Short history of arson                 |         |
| 2. Felony and misdemeanor defined         |         |
| 3. Structure                              |         |
| 4. Personal property                      |         |
| 5. Insured property                       |         |
| 6. Brush, wildland fires                  |         |
| <br>                                      |         |
| C. Types of Incendiary Fires              | 5 hours |
| 1. Vanity                                 |         |
| 2. Spite, grudges, revenge                |         |
| 3. Crime cover up                         |         |
| 4. Insurance fraud                        |         |
| 5. Pathological                           |         |
| 6. Case histories                         |         |
| 7. Civil disturbance                      |         |

- D. Fire and Police Investigation 5 hours
  - 1. Organization
  - 2. Fire and Police department coordination
  - 3. Reports and records
  - 4. Attaining the complaint
  
- E. Fire Cause (Natural - Accidental) 5 hours
  - 1. Electrical
  - 2. Smoking and matches
  - 3. Heating appliances
  - 4. Misuse of flammable liquids
  - 5. Static electricity
  - 6. Friction
  - 7. Spontaneous ignition
  - 8. Miscellaneous
  
- F. Incendiary Fires 5 hours
  - 1. Flammable liquids
  - 2. Timing devices
  - 3. Trails
  - 4. Chemicals
  - 5. Paper and matches
  
- G. Juvenile Fire Setters 5 hours
  - 1. Welfare and institution code
  - 2. Motives
  - 3. Environmental problem
  - 4. Methods of questioning
  - 5. Penalties
  
- H. Firefighter Responsibility in Detection 5 hours
  - 1. Observing conditions at fire
  - 2. Locating evidence
  - 3. Protecting evidence
  
- I. How to Question and Detail Witnesses 4 hours
  - 1. Legal rights of individual (self incrimination)
  - 2. Obtaining information
  
- J. Court Procedure 4 hours
  - 1. Conduct and appearance
  - 2. Giving testimony

**V. Methods of Instruction**

The following methods of instruction may be used in the course:

1. lecture;
2. multimedia;
3. guest speakers;
4. field trips.

**VI. Out of Class Assignments**

The following out of class assignments may be used in the course:

1. individual projects (i.e. written assignments, reading reports);
2. group projects (i.e. homework problems, problem solving demonstrations, discussion on textbook topics).

**VII. Methods of Evaluation**

The following methods of evaluation may be used in the course:

1. quizzes;
2. midterm examination;
3. final examination.

**VIII. Textbooks**

Handouts will be provided for the students.

**IX. Student Learning Outcomes**

1. Student will be able to identify current arson and incendiarism trends.
2. Student will be able to describe legal right of firefighters.
3. Student will be able to research current laws of search and seizure.
4. Student will have knowledge of the laws of arson.
5. Student will be able to identify the types of incendiary fires.