

Prepared by the Department Social Sciences and Human Services

Date of Departmental Approval: February 2013

Date approved by Curriculum and Programs: March 6, 2013

Effective: Fall 2013

**1. Course Number: FSC108**

**Course Title: Fire Investigation and Evidence**

**2. Description:** This course covers the methods used in determining the causes and circumstances of fire. The collecting and preserving of evidence are covered, as well as the preparation of evidence for court.

**3. Student Learning Outcomes (instructional objectives; intellectual skills):** Upon successful completion of this course, students are able to do the following:

- Describe the causes of incendiary fires.
- Discuss basic chemistry of fire for purposes of understanding fire growth and behavior.
- Discuss legal aspects of arson.
- Discuss essential techniques of fire investigation.
- Analyze the basic motives of arson.
- Determine area of origin at a fire scene.
- Apply criminal investigation requirements to fire investigation.

**4. Credits:** 3 credits

**5. Satisfies General Education Requirement:** No

**6. Prerequisite:** FSC150/FSC100

**7. Semester Offered:** Varies

**8. Suggested General Guidelines for Evaluation:** Evaluation may include but is not limited to examinations, papers and presentations.

**9. General Topical Outline:**

1. Introduction
  - a. Reasons for Setting Incendiary Fires
2. Elementary Chemistry of Fire
  - a. Combustion
  - b. Nature and Behavior of Gases
  - c. Combustion Properties of Non-Solid Fuels
  - d. Combustion Properties of Solid Fuels
3. Pyrolysis and Fire Patterns in Structural and Outdoor Fires
4. Sources of Ignition
5. Automobile, Boat, Clothing and Fabric Fires
6. Items to Look for in Determining Arson Intent
7. Practical Investigation of Structural Fires
  - a. Laws on Attempts to Burn
  - b. Law on Burning a Dwelling House
  - c. Fire Manual Investigation of Fire
8. Legal Aspects of Arson
9. Essential Points in Fire Investigation
  - a. Preparation of Evidence
  - b. Protecting and Preserving Evidence
  - c. Securing Convictions
10. Carbon Monoxide Asphyxiation
11. Explosions Associated with Fires
12. Building Constructing Materials