

**J. Sargeant Reynolds Community College  
Course Content Summary**

**Course Prefix and Number: FST 231**

**Credits: 3**

**Course Title: Fire Investigation II**

**Course Description (including lecture hours, lab hours, total contacts)**

Provides the student with advance technical knowledge on rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation, and testifying. Lecture 3 hours per week.

**General Course Purpose**

This course provides the student with advanced technical knowledge needed for proper fire scene interpretations.

**Course Prerequisites/Corequisites** (*Entry-level competencies **required** for enrollment*)  
FST 230

**Course Objectives** (Each item should complete the following sentence.)

Upon completing the course, the student will be able to:

1. Explain the rule of law as it pertains to arrest, search and seizure procedures and their application to fire investigations.
2. Recognize and interpret fire scenes common to various types of fires.
3. Describe the chemistry of combustion and the relationship of atoms, elements, compounds, and organic compounds on fire.
4. Explain the nature and behavior of fire including the effects of heat.
5. Explain and identify the combustion properties of liquids, gases and solid fuels.
6. Identify and explain electrical causes of fires.
7. List and explain the procedures for lifting fingerprints, evidence collection and preservation.
8. List and identify the make-up and use of incendiary devices, explosives, and bombs.
9. List the procedures for documenting fire scenes, including sketching, photography, and report writing.
10. Analyze fire-related deaths and injuries and describe methods of documentation.
11. Identify the techniques for interviewing and questioning suspects and subjects.
12. Explain the role of the fire investigator in courtroom proceedings including courtroom demeanor and testifying.
13. Identify and list the sources and technology available for fire investigations.
14. Identify and analyze the causes of firefighter deaths in the line of duty related to structural and wildland firefighting, training and research, and the reduction of emergency risks and accidents.

**Major Topics to be Included**

1. Rule of law as it pertains to arrest, search and seizure procedures and their application to fire investigations.
2. Recognition and interpretation of fire scenes common to various types of fires.
3. Chemistry of combustion and the relationship of atoms, elements, compounds, and organic compounds on fire.
4. Nature and behavior of fire including the effects of heat.
5. Combustion properties of liquids, gases and solid fuels.

6. Electrical causes of fires.
7. Procedures for lifting fingerprints, evidence collection and preservation.
8. Make-up and use of incendiary devices, explosives, and bombs.
9. Documenting fire scenes, including sketching, photography, and report writing.
10. Analysis of fire-related deaths and injuries and methods of documentation.
11. Techniques for interviewing and questioning suspects and subjects.
12. Role of the fire investigator in courtroom proceedings including courtroom demeanor and testifying.
13. Sources and technology available for fire investigations.
14. Causes of firefighter deaths in the line of duty related to structural and wildland firefighting, training and research, and the reduction of emergency risks and accidents.

**Effective Date of Course Content Summary (Month, Date Year):** Oct 1, 2008