

**RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE**

CRMJ 125 – Introduction to Arson Investigation

I. Basic Course Information

- A. Course Number and Title: CRMJ – Introduction to Arson Investigation
- B. New or Modified Course: Modified
- C. Date of Proposal: Semester: Spring Year: 2017
- D. Effective Term: Fall 2017**
- E. Sponsoring Department: Business & Public Service
- F. Semester Credit Hours: 3.0
- G. Weekly Contact Hours: Lecture: 3.0
Laboratory: 0
Out of class student work per week: 6.0
- H. Prerequisites/ Corequisites: None
- I. Laboratory Fees: None
- J. Name and Telephone Number or E-Mail Address of Department Chair at time of approval: Anne Marie Anderson, annemarie.anderson@raritanval.edu

II. Catalog Description

This course examines theories of fire investigation and the role of the fire investigator. The methodology of fire investigation, motives of arsonists, fuels, incendiary fires, explosions and auto fires will be discussed, as will the formulation and testing of a hypothesis with regard to the origin and cause of a fire. Students will develop the basic knowledge of the methodology utilized by fire investigators.

III. Statement of Course Need

- A. This course will expose students to the field of fire investigation including the history of fire investigation, the classification of fires, the organization of fire/arson investigation systems (local, county, state, and federal), and the technological and scientific challenges faced in modern fire investigations.

- B. This course does not have a lab component.
- C. This course generally transfers as a free elective.

IV. Place of Course in College Curriculum

- A. Free Elective
- B. This course meets a program requirement for Emergency Services – Fire Science option (A.S.) degree or as an elective in the Criminal Justice (AA) and Emergency Services (AS) degrees.
- C. To see course transferability: a) for New Jersey schools go to NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to each institutions individual websites.

V. Outline of Course Content

- A. Administration
- B. Basic Fire Methodology
- C. Basic Fire Science
- D. Fire Patterns
- E. Building Systems
- F. Fire Protection Systems
- G. Electricity and Fire
- H. Building Fuel Gas Systems
- I. Fire-Related Human Behavior
- J. Legal Considerations
- K. Safety
- L. Sources of Information
- M. Planning the Investigation
- N. Documentation of the Investigation
- O. Physical Evidence
- P. Origin Determination
- Q. Fire cause Determination
- R. Classification of Fire Cause
- S. Analyzing the Incident for Cause and Responsibility
- T. Failure Analysis and Analytical tools
- U. Explosions
- V. Incendiary Fires
- W. Fire and Explosion Deaths and Injuries
- X. Appliances
- Y. Motor Vehicle Fires
- Z. Wildfire Investigations
- AA. Management of Complex Investigations
- BB. Marine Fire Investigations

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

State the **General Education Learning Outcomes** for the academic course.

At the completion of the course, students will be able to:

1. Explain and apply the scientific method as it relates to fire investigation.(GE-NJ 3)
2. Develop a historical understanding with respect to the evolution of fire investigations in the United States. (GE-NJ 3)

B. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Define and explain the common terms used in fire investigation.
2. Explain the basic elements of fire dynamics and how they affect cause determination including fire behavior.
3. Determine the origin and cause of a fire utilizing the scientific method.

C. Assessment Instruments

- A. Lecture/ discussion
- B. Field exercise
- C. Research papers
- D. Demonstrations
- E. Essays
- F. Journals
- G. Video analysis-exercise and discussion

VII. Grade Determinants

- A. report (origin and cause)
- B. projects
- C. quizzes/exams
- D. presentations

Modes of teaching and learning used in this course:

- A. Lecture/Discussion
- B. Guest speaker(s)
- C. Field exercises
- D. Video analysis exercise and discussion
- E. Research assignments

VIII. Texts and Materials

International Association of Arson Investigation. *Fire Investigator: Principles and Practices to NFPA 921 and 1033 (latest edition)*. Jones and Bartlett Publishers.

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

N/A

X. Honors Option

N/A