Raritan Valley Community College
Academic Course Outline

SCIE-127 INTRODUCTION TO FORENSIC SCIENCE

I. Basic Course Information

A. Course Number and Title: Introduction to Forensic Science SCIE-127

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2010

D. Sponsoring Department: Science & Engineering

E. Semester Credit Hours: 3

F. Weekly Contact Hours: 4 Lecture: 2
Laboratory: 2

G. Prerequisites: Laboratory Science

H. Laboratory Fees: Yes

I. Name and Telephone Number or E-Mail Address of Department Chair:
Margaret Czerw, 908-526-1200 ext. 8537, mczerw@raritanval.edu

II. Catalog Description

Prerequisites: Laboratory Science
This course is an introduction to the application of physical and biological sciences in analyzing and evaluating physical evidence as related to crime and the law. The role of forensic science in criminal and civil investigations where questions regarding interpretation of physical evidence are crucial will also be examined.

III. Statement of Course Need

We are now seeing that the field of forensics is crucial to most criminal investigations and is often the vital part in obtaining a conviction. RVCC students will have a hands-on opportunity to study this exciting field.

IV. Place of Course in College Curriculum

A. This course is a free elective.

B. This course transfers as a science elective; for New Jersey schools go to the NJ Transfer website, www.njtransfer.org. For all other colleges and universities go their individual websites.

V. Outline of Course Content

A. Services of a typical crime laboratory.

B. Different approaches used to decide the admissibility of scientific evidence in the courtroom and the role of an expert witness.

C. Proper recognition, collection and packaging of common types of physical evidence.

D. Differences between identification and comparison of physical evidence.

E. Definition of individual and class characteristics.

F. Definition of physical and chemical properties.

G. The analysis of glass and soil evidence-density, refractive index and fracture patterns

H. How matter is classified – elements, compounds and mixtures – and the atomic structure.

I. Organic and inorganic compounds.

J. Qualitative and quantitative analysis.

K. Common methods or organic analysis such as chromatography and spectrometry.

L. Common methods of inorganic analysis such as emission and absorption spectrometry, x-ray diffraction and neutron activation analysis.

M. Usefulness of trace elements for forensic comparison and identification of physical evidence.

N. Microscopy – dissecting, compound, phase contrast.

O. Structure of hair and distinguishing characteristics of animal and human hair.

P. Classification of fibers and properties of fibers that are most useful for forensic comparison.

Q. Classification of the commonly abused drugs.

VI. Educational Goals and Learning Outcomes

A. Educational Goals

Students will:

1. Develop the ability to think critically about crime scene evidence. (GE-RVCC 1,7; NJ 3)
2. Develop the ability to reason quantitatively about evidence. (GE-RVCC 7; NJ 2,3)
3. Learn the rules of evidence, with emphasis on the court system. (GE-RVCC 5; NJ 5)
4. Communicate their findings orally and in writing. (GE-RVCC 2; NJ 1)

B. Learning Outcomes

Students will be able to:

1. Participate in a simulated crime scene investigation.
2. Write reports on their findings.
3. Report their findings orally to the class.
4. Examine and interpret laboratory data.

VII. Modes of Teaching and Learning

A. lecture/discussion
B. small-group work
C. guest speakers
D. laboratory (crime simulations)
E. student oral presentations

VIII. Papers, Examinations, and other Assessment Instruments

A. Laboratory reports
B. Oral reports
C. Exams
D. Final exam

IX. Grade Determinants

A. Performance in crime scene investigations
B. Lab reports
C. Oral presentations
D. Performance on exams and final exam

X. Texts and Materials

Suggested Texts:

Saferstein, *Criminalistics: An Introduction to Forensic Science, 8th Ed.*, Pearson/Prentice Hall, 2004.

Meloan & James, *Lab Manual for Criminalistics: An Introduction to Forensic Science, 8th Ed.*, Pearson/Prentice Hall, 2004.

(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.)

XI. Resources

RVCC biology lab facilities.

XII. Honors Options

Not applicable