Administrative Unit: Criminal Justice Administration & Human Services Department

Course Prefix and Number: CJAD 335L

Course Title: Criminalistics Laboratory

Number of Credit Hours: 2 Lecture Hours: 0 Laboratory Hours: 2

Catalog Description: Criminalistics laboratory supplements CJAD 335 Criminalistics and covers the basic biology, chemistry and instrumentation techniques used in crime scene investigation. $20 lab fee. Prerequisites: CJAD 335 or concurrent enrollment; CHEM 110 and CHEM 110L; BIOL 110 and BIOL 110L; junior standing or instructor’s permission. Occasional offering.

Additional Information: The crime laboratory is a key component to the solving of a crime through forensic analysis. As such, this course will familiarize the student with the role that the crime plays with relations to the police function of evidence identification, collection and preservation. It will also introduce the student to the equipment used in analyzing the various types of evidence located on crime scenes.

Prerequisite(s)/Corequisite(s): CJAD 335 or concurrent enrollment; CHEM 110 and CHEM 110L; BIOL 110 and BIOL 110L; junior standing or instructor’s permission.


Course Objectives:

- To understand the scientific techniques.
- To understand crime laboratory instrumentation.
- To develop methods of microscopy.
- To develop fingerprint techniques.
- To develop skills for testing dangerous drugs.
- To understand genetic typing.

Measurable Learning Outcomes:

- Define the various components to the crime laboratory as they relate to criminal investigation.
- Explain the scientific underpinnings of forensic analysis.
- Demonstrate knowledge of various laboratory equipment through a practical laboratory setting.
- Demonstrate knowledge of various laboratory instruments in a practical laboratory setting.
- Describe the practical functions of the Gas Chromatograph and the Mass Spectrometer.
- Demonstrate knowledge of how the results of laboratory analysis impact criminal convictions in a court of law.
Topical Outline (major areas of coverage):

- Forensic Capillary Gas Chromatography
- Forensic identification of illicit drugs
- Microscopy and microchemistry of physical evidence
- An introduction to the forensic aspects of textile fiber examination.
- Forensic mitochondrial DNA analysis
- The identification of semen and other bodily fluids
- Firearms identification

Recommended maximum class size for this course: 16

Library Resources: Online databases are available at http://www.ccis.edu/offices/library/resources.asp. You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Michael D. Lyman

Date: November 10, 2005

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

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