AJ 150: INTRODUCTION TO FORENSICS

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2024
Credits:	3
Total Contact Hours:	54
Lecture Hours :	54
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	108
Total Student Learning Hours:	162
Strongly Recommended:	ENGL 101.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

This course provides an introduction to the role of forensics in criminal investigations. It examines the methods utilized in the forensic analysis of crime scenes, pattern evidence, instruments, firearms, questioned documents and controlled substances. 54 lecture hours.

Course Objectives

- Identify and explain the role of forensic specialists in the Criminal Justice System.
- Identify the various types of crime scenes and differentiate between crime scene process versus crime scene analysis.
- Identify and differentiate the types of pattern evidence and explain their respective importance in crime scene reconstruction.
- Identify and explain Personal Identification Patterns that identify a person.
- Identify and explain the processes for analyzing questioned documents.
- Identify and explain the processes for analyzing tool mark and firearm evidence.
- Explain the procedures for the collection and preserving DNA evidence to prevent contamination.
- Identify and differentiate the chemical and material evidence in Arson and Explosives crime scenes.
- Identify and differentiate depressant, stimulant, hallucinogen, and narcotic substances and explain the methods of analyzing each type of substance in a forensic laboratory.

Major Course Content

1. Role of Forensic Science within the Criminal Justice System
   a. History of forensic science
   b. Science and the scientific method
   c. Physical evidence and the legal system
2. Crime Scene analysis versus crime scene processing
   a. Processing versus analysis
   b. Steps in scene processing and analysis
   c. Evidence collection and preservation
   d. Crime scene analysis and reconstruction
3. Analysis of Pattern Evidence in Investigations
   a. Blood splatter patterns
   b. Glass fracture patterns
   c. Track and Trail patterns
   d. Tire and skid mark patterns
   e. Clothing and article or object patterns
   f. Gunshot residue patterns
   g. Projectile trajectory patterns
   h. Fire burn patterns
   i. Modus operandi patterns and profiling
   j. Wound, injury, and damage patterns
4. Principles of Fingerprint Identification
   a. Nature and history of fingerprint use
   b. Collection and preservation of fingerprint evidence
   c. Fingerprint comparison and identification
   d. Identification of human remains
5. Analysis of Document Evidence
   a. Recognition, collection, and preservation of document evidence
   b. Handwriting comparison
   c. Non-handwriting document examinations
   d. Reconstruction of document events
6. Firearms and tool mark analysis
   a. Toolmark definition
   b. Firearms evidence examination and comparison
   c. Use of firearms evidence for reconstruction
   d. Serial number restoration
7. Biological Evidence
   a. Nature of blood
   b. Collection, preservation, and packaging of biological evidence
   c. Forensic identification of blood
   d. Forensic identification of body fluids
   e. Forensic investigation of sexual assault cases
   f. Blood and body fluid individuality
8. Collection, Preservation and analysis of DNA evidence
   a. Genetics, inheritance, and genetic markers
   b. Collection and preservation of biological evidence for DNA typing
   c. Development and methods of DNA analysis
   d. Applications of forensic DNA typing
   e. Newer DNA technologies
9. Arson and Explosives evidence
   a. The combustion reaction
   b. Investigating suspicious fires
   c. Recovery of ignitable residues from fire scenes
   d. Laboratory Analysis of debris
   e. Characteristics of explosives and explosions
   f. Three major classes of explosives
   g. The explosive train or device
   h. Laboratory analysis of explosives and explosive residues
10. Types of Controlled Substances evidence
   a. Nature of drugs and drug abuse
   b. Analysis of controlled substances in the forensic laboratory

Suggested Reading Other Than Required Textbook

News articles, journals, scientific reports, and non fiction books regarding the field of forensic science and legal cases where forensic evidence has been collected, analyzed, and used.

Examples of Required Writing Assignments

Students will prepare a five to seven page research paper in APA format on a topic identified by the instructor.
Students will prepare short reviews of cases where forensic evidence was collected at a crime scene, analyzed at a crime lab, or introduced in court.

Examples of Outside Assignments

Students will review text material to prepare for discussion and participation in class activities.
Study for quizzes and exams.
Conduct research regarding the field of forensic science, application of existing procedures and development of equipment and procedures.

Instruction Type(s)

Lecture, Online Education Lecture