

Forensic Science

COURSE DESCRIPTION: This course surveys key topics in forensic science, including the application of the scientific process to forensic analysis, procedures and principles of crime scene investigation, physical and trace evidence, and the law and courtroom procedures from the perspective of the forensic scientist. Through online lessons, virtual and hands-on labs, and analysis of fictional crime scenarios, students learn about forensic tools, technical resources, forming and testing hypotheses, proper data collection, and responsible conclusions.

PREREQUISITES: Successful completion of at least two years of high school science including Biology and Chemistry is highly recommended (or equivalents)

COURSE LENGTH: One Semester

REQUIRED TEXT: No required textbook for this course

MATERIALS LIST: No required materials for this course

COURSE OUTLINE:

Unit 1: Scientific Principles of Crime Investigation

- Forensic Science Theory
- Crime Scene
- Lab: Crime Scene Sketch
- Crime Scene Personnel
- Lab: Measurement and Significant Figures
- Crime Scene Photography

Unit 2: Evidence

- Types of Evidence
- Death and Decomposition
- Autopsy
- Lab: Human Digestion Actions
- Forensic Entomology
- Forensic Anthropology

- Forensic Odontology
- Lab: Teeth
- Blunt Force Trauma and Splatter
- Ballistics
- Lab: Ballistics and Splatter

Unit 3: Trace Evidence 1

- Hair and Fibers
- Pollen and Spores
- Lab: Investigating Biological Compounds
- Alcohol
- Organic Analysis
- DNA
- Lab: DNA
- Fingerprints
- Lab: Fingerprints
- Lab: Blood

Unit 4: Trace Evidence 2

- Tool Marks
- Glass
- Soil Impressions
- Footwear and Tire Marks
- Lab: Rocks and Minerals
- Poisons and Toxicology

Unit 5: Forensics of Certain Crimes

- Personal Injury Crimes
- Drug Crimes
- Gun Crimes
- Computer Crimes and Digital Evidence
- Financial Crime and Forensic Auditing
- Arson and Explosion
- Lab: Arson Evidence

- Robbery and Theft
- Fraud and Forgery
- Document Analysis
- Lab: Paper Chromatography
- Handwriting Analysis
- Lab: Handwriting

Unit 6: Forensics in the Legal System

- Law and Evidence
- Courtroom Procedures
- Presenting Evidence in the Courtroom
- On the Witness Stand
- On a Jury

Unit 7: Semester Review and Test

- Review
- Test