



FORENSIC SCIENCE LAB

Fridays, September 16- December 16 (no class Oct 14 and Nov 25; 12 weeks)

11:15am-12:45pm

Ages 14+

In this course, students use scientific methods (biology, chemistry and physics) to answer questions related to crimes and law enforcement investigations. Students learn proper collection, preservation and analysis of various types of evidence. All lab costs are included in the registration fee.

Instructor: Ashley Blocker, BSc

Location: STEM Lab (Suite 21) - Roswell

Course fee: \$275 or \$25/lab

10% sibling discount

Register for full semester or individual labs

LAB SCHEDULE:

FORENSIC SCIENCE AND EVIDENCE GATHERING - Friday, September 16

Students are introduced to the science of forensics, learn about proper data gathering, evidence collection, and chain of custody in crime scene investigations, and evaluate the testimonial evidence of witnesses.

FINGERPRINT ANALYSIS - Friday, September 23

This week we study the biology of fingerprints and history of fingerprint analysis, learn how fingerprint evidence is left at a scene, practice powder and chemical methods of recovering fingerprint evidence, and analyze fingerprint data.

BLOOD ANALYSIS - Friday, September 30

After students review the components of our blood and viscosity of liquids, we learn the chemistry of detecting blood at a crime scene, and create a life-like fake blood to study the physics of spatter.



BLOOD TYPING - Friday, October 7

This week we study blood types and how blood is characterized, learn how our immune response can assist with eliminating potential suspects, conduct a blood types analysis on synthetic blood and solve a mystery using blood evidence.

DNA ANALYSIS - Friday, October 21

Students review the structure and function of DNA, learn how scientists collect and extract DNA, and investigate different DNA technologies used to analyze DNA (sequences, fragments, STRs, mtDNA).

HAIR AND FIBER ANALYSIS - Friday, October 28

In this lab, we learn to differentiate types of hair and fiber that could be trace evidence left at a crime scene. Students compare human and animal hair types as well as natural and synthetic fibers using proper microscopic methods.

FORENSIC ENTOMOLOGY - Friday, November 4

This week we study how insect life cycles (and other ecological information) can assist in determining the location and chronology of a crime, investigate stages of decomposition and learn how the environment influences the decomposition process.

HANDWRITING ANALYSIS - Friday, November 11

Students study forgery and handwriting analysis as they look for nuances in handwriting style, match suspect writing with evidence, reveal writing impressions and observe difficulties in forging a signature.

WEAPON IDENTIFICATION - Friday, November 18

Students use ballistic gel to test markings of several potential weapons to determine the weapon used in a crime, and measure the angle of entry to gain insight on the size of the suspect and manner in which an assault took place.

POWDER ANALYSIS - Friday, December 2

We use chemical analysis and observation to identify unknown white powders to model the analysis of poisons or drugs that may be found at a crime scene.

IMPRESSIONS AND GAIT ANALYSIS - Friday, December 9

We study footprints, tire marks, and bite marks to determine how this evidence can be used to link a suspect to a crime scene. In addition, we analyze footprints and walking patterns to determine the height of the person who made them.

CRIME SCENE INVESTIGATION - Friday, December 16

Using the skills and techniques they learned this semester, students work together to solve a crime and present their evidence. Once the case is solved, students work together to create their own crime scene scenario.

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