



Reavis High School Forensic Science Curriculum Snapshot



Unit 1: History of Forensic Science

5
Days

Timeline of significant forensic scientific discoveries and how they were used in investigations and courts of law throughout the world.



Unit 2: Crime Scene

5
Days

Proper crime scene processing techniques; evidence collection and chain of custody requirements; admissibility of science in courts of law: the Frye opinion and Daubert v. Merrell.



Unit 3: Persuasive Argumentation and Reasoning

5
Days

Differentiate between inductive and deductive reasoning; apply "ethos, pathos, logos" toward making a persuasive argument.



Unit 4: Death and Decomposition

10
Days

Identify stages of decomposition; identify time of death from stage of death and temperature of body.



Unit 5: Forensic Anthropology

15
Days

Identify major bones in the human skeleton; identify race, gender, and age from human bones; apply regression analysis using Excel to determine height of humans from various bones in the body.



Unit 6: Forensic Entomology

10
Days

Identify types of insects associated with decomposition. Identify time of death from blowfly infestation.



Unit 7: Forensic Chemistry

20
Days

Identify substances by their chemical properties (reaction and density). Use a suite of scientific procedures to identify unknown substances including the Gas Chromatograph Mass-Spectrometer, Spectrophotometer, density tube, chromatography, and reaction matrices.



Unit 8: Forensic Toxicology

10
Days

Describe how alcohol and drugs impair the human body. Identify techniques for acquiring and then determining the type of substance pre and post mortem. Describe how narcotics and controlled substances interact with neurotransmitters.



Unit 9: Forensic Statistics

10
Days

Understand basic probability. Use MS Excel to solve basic probability and statistics problems. Apply knowledge of probability to forensic applications.



Unit 10: DNA

20
Days

Understand the structure of DNA: how it is replicated using polymerase chain reaction; statistical relationship among allele pairs and how it is used in a court of law; generate and analyze DNA fingerprints; case study analyses.



Unit 11: Forensic Serology

25
Days

Blood typing including Rh factor. Limitations of blood type as forensic evidence. Viscosity analysis of blood. Chemical testing for blood (Kastle-Meyer Reagent, Luminol). Blood drop and splatter analysis.



Unit 12: Ballistics and Impressions

15
Days

Physics of bullets; firearm identification; firearm and matching bullet comparison; reconstructing and analyzing car crashes using knowledge of momentum and Newton's Laws; making tool casts and analyzing casts with microscopes.



Unit 13: Fingerprints, Hair, and Fiber

15
Days

History of fingerprinting; statistics of fingerprinting; obtaining and analyzing fingerprints; differentiating hair among race and animals; differentiate between synthetic and natural fibers.