"Forensic Science (9–12) is a hands-on elective introducing students to crime scene investigation through weekly lectures and labs.

Topics include evidence collection, blood spatter analysis, forgery, autopsy, DNA, forensic entomology, and dental records, with a final mock crime scene practicum. Students develop investigative and analytical skills while exploring forensic careers.

Forensic Science (9–12) – NGSS Alignment

NGSS Standard	Course Topic / Activity	Notes / Alignment
HS-LS1-1	DNA analysis, tissue identification	Construct explanations using cellular and molecular evidence to identify individuals
HS-LS1-2	Autopsy labs, understanding human anatomy	Modeling interacting systems in human body for forensic analysis
HS-LS1-3	Autopsy and decomposition labs	Explains how cells and tissues change over time after death
HS-LS1-6	DNA extraction and enzymatic tests	Explains cycles of matter and energy in forensic biological processes
HS-LS3-1	DNA inheritance patterns, identification	Using models to explain why DNA traits can identify individuals
HS-LS3-2	DNA mutation analysis, crime evidence	Provides evidence that variation exists and can be detected in forensic samples
HS-PS1-1	Chemical testing of evidence (ink, toxins, residues)	Analyze structure and properties of matter in forensic chemistry
HS-PS1-2	Chemical reactions in lab analysis	Use chemical tests to identify substances from crime scenes
HS-PS1-3	Quantitative forensic chemistry	Measure amounts, concentrations, and reaction yields
HS-PS1-5	Molecular interactions in forensic samples	Understand molecular bonding in residues or chemical markers
HS-PS1-6	Conservation of mass	Track mass changes in chemical reactions (e.g., blood, chemical residues)
HS-PS2-6	Blood spatter labs	Analyze forces, angles, and trajectories in forensic investigations
HS-ETS1-1	Designing forensic experiments	Plan investigations to test hypotheses about crime scene events
HS-ETS1-2	Evaluating experimental design	Test multiple forensic techniques for accuracy or reliability
HS-ETS1-3	Engineering solutions	Design mock crime scene procedures to gather evidence effectively
Crosscutting Concepts	Cause & effect, structure & function, systems	Students connect physical evidence and biological systems to explain crime events
Science & Engineering Practices (SEPs)	Modeling, investigation, data analysis, argumentation	Applied throughout labs, mock crime scenes, and final practicum

The course aligns with NGSS High School standards including HS-LS1-1, HS-LS1-2, HS-LS1-3, HS-LS1-6, HS-LS3-1, HS-LS3-2 (biology and DNA), HS-PS1-1 through HS-PS1-6, HS-PS2-6 (chemical and physical analysis), and HS-ETS1-1 through HS-ETS1-3 (engineering design of investigations). Instruction integrates Science and Engineering Practices such as modeling, investigation, data analysis, explanation, and argumentation, with crosscutting concepts like cause and effect, structure and function, systems, and stability and change. All lab supplies are provided for in-person learners.