

2025-2026 Course Guide

Forensic Science

Proviso Mathematics and Science Academy

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Office Hours: By Appointment.

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Course Description: In Forensic Science, students will explore the philosophical, rational, and practical frameworks that support case investigations. Emphasis will be placed on the unifying principles of forensic science, key considerations during investigations, and the experimental methods used in forensic analysis. This is not a general survey of forensic disciplines, but rather a foundational course focusing on the umbrella under which forensic applications reside.

Through interactive exercises and scenario-based discussions, students will strengthen their analytical thinking and deepen their understanding of inferences and assumptions in investigations. The course culminates in a comprehensive final exam requiring students to demonstrate mastery of core content and apply knowledge to novel cases.

Tentative Course Schedule

August / September:

- Course Introduction
- Chapter 1: Introduction to Forensic Science
- Chapter 2: The Crime Scene

October:

- Chapter 3: Physical Evidence
- Chapter 4: Physical Properties: Glass and Soil
- Chapter 5: Organic Analysis

November:

- Chapter 6: Inorganic Analysis
- Chapter 7: The Microscope

December:

- Chapter 8: Hair, Fiber, and Paint
- Special Topics in Forensics (TBA)
- Review for Fall Final Exam

January:

- Chapter 9: Drugs
- Chapter 10: Forensic Toxicology

February:

- Chapter 11: Fire and Explosion Investigations
- Chapter 12: Forensic Serology

March:

- Chapter 13: DNA
- Chapter 14: Fingerprints

April:

- Chapter 15: Firearms, Tool Marks, and Impressions
- Chapter 16: Document and Voice Examination

May:

- Special Topics in Forensics
- Review for Spring Final Exam

Course Objectives

Learning Outcome A: Understand and appreciate the scope of forensic science.

- Define forensic science and its sub-disciplines.
- Review the historical development of forensic fields.
- Identify roles of crime investigators, labs, and medical examiners.
- Describe the organization and function of a crime lab.
- Assessments: Exams, quizzes

Learning Outcome B: Understand the scientific method in legal contexts.

- Review the scientific method and its application.
- Evaluate how sub-disciplines use scientific reasoning.
- Analyze current limits and challenges in forensic science.
- Review and critique recent forensic research.
- Assessments: Exams, quizzes

Learning Outcome C: Gain knowledge of forensic sub-disciplines.

- Study the history and fundamentals of each sub-field.
- Understand necessary education/training per discipline.
- Review tools, methods, and techniques used in each field.

Assessment Methods

- Exams and Quizzes
- Case Study Portfolio
- Capstone Project Portfolio
- Lab Performance
- Homework and Journaling
- Group Projects and Presentations
- Bell-Ringers / Exit Slips
- Peer and Professional Evaluation
- Research Projects and Abstracts
- Literature Reviews

General Policies

Email Etiquette: Emails must be professional and include:

- Proper greeting and grammar
- Your full name, class day/time

Example: *Bob Smith, Monday/Wednesday 12:20 PM*

Academic Honesty: Plagiarism, cheating, or any form of dishonesty will result in a zero on the assignment. A second offense will lead to failure in the course and notification of administration. Refer to the PMSA Student Guide for full policies.

Attendance: Students are expected to attend all classes. Only the instructor can excuse a student from a responsibility. Notify the instructor in advance if possible; otherwise, communicate ASAP through email or the main office.

Forensic Science
AI Use Policy in Science Classes

Purpose

AI tools like ChatGPT, Google Gemini, and Grammarly can help you better understand science content, organize your ideas, and improve communication. However, in science, you learn by doing, thinking, and problem-solving. This policy outlines how you may and may not use AI tools in our science class.

Appropriate Use of AI in Science Class

You may use AI tools for the following with permission and proper citation:

- Reviewing difficult scientific terms or concepts
- Asking for help understanding steps in a scientific method or process
- Generating quiz-style questions for studying
- Organizing your own lab data (after you collect and analyze it yourself)
- Editing grammar or clarity in your lab reports after you have written them
- Brainstorming ideas for science fair or research projects

Unacceptable Use of AI

AI use is not allowed for the following:

- Writing your lab reports, research papers, or science assignments
- Creating fake data or experimental results
- Copying and pasting AI-generated content into your work
- Using AI to answer test or quiz questions or complete homework for you
- Submitting AI-generated graphs, charts, or conclusions
- Asking AI to "do the work" instead of helping you learn the content

Consequences for Misuse

Using AI inappropriately is a form of academic dishonesty. Consequences may include:

- A zero on the assignment
- A phone call home or meeting with your parent or guardian
- Referral to school administration for repeated violations
- Loss of privileges for using AI tools in the future

Your Responsibilities as a Science Student

- Always ask first if you are not sure whether AI is allowed for an assignment
- Own your learning and use AI to support your thinking, not replace it
- If you use AI, you must say so in your work
(for example, "Used ChatGPT to help organize data summary")
- Understand that real scientists use tools to explore, question, and discover,
not to shortcut the process

Science is about curiosity, evidence, and thinking for yourself. AI can help you learn, but it should never replace the work that makes you a scientist. Use it wisely and always let your brain do the heavy lifting.