Forensic Biology

Instructor Information:
Robert Ly (pronounced "Lee")
robert_ly@chino.k12.ca.us

When you email me, please <u>use your student email</u> and <u>include name and period</u> in the subject line: **Robert Ly, P.4 - grade on Aeries

Course Description:
Forensic Biology is a college preparatory, laboratory-based introduction to the investigation of crime scenes by collecting and analyzing physical evidence. This course is designed to integrate the core scientific disciplines (as outlined in the California NGSS Standards for grades 9 - 12) while providing students both theory and hands-on experience with the skills and knowledge required of a forensic crime scene investigator. This multidisciplinary approach will highlight topics in DNA, genetics, anatomy, chemistry, physics, entomology, botany, and investigative techniques. These will be supplemented with case studies and aspects of earth science, mathematics, medicine, technology, and sociology. In addition, the ethical, legal, and social concerns surrounding forensics will be discussed. Sample evidence for analysis will include, but is not limited to, fingerprints, DNA, projectiles and trajectories, ballistics, hair, fibers, toxicology, blood spatter patterns, chromatography, entomology, soil samples, plant materials, and impressions. Students will practice process skills such as comparative analysis, critical thinking, deductive reasoning, interviewing, observation,organization, problem solving, research, communication, evidence collection, lab safety, and technical reading. Project-based learning through laboratory investigations, discussions/class lectures will be the primary mode of content delivery to be supplemented by guest speakers with field experience and expertise.

Textbook: Bertino & Bertino. Cengage Learning. *Forensic Science: Fundamentals and Investigations 3rd edition.* 2021.

Required Materials:

- Scientific Calculator
- Lined paper/notebook
- Pen/Pencil
- Chromebook with charger

Office Hours:

Mr. Ly (S106) - Thursdays 7:45 - 8:20 am and by appointment

Grading Criteria:

- **Celebrations of Learning (70%):** Regular assessments to celebrate what we've learned

- **Weekly Check-ins (10%):** ongoing checks to reinforce our learning from prior lessons

- **Forensic Activities (20%):** Hands-on activities that teach us how to think like a scientist

Grading Scale:

A (89.5 - 100%)
B (79.5 - 89.4%)
C (69.5 - 79.4%)
D (59.5 - 69.4%)
F (50 - 59.4%)

Behavior Expectations:
- Cell phones must remain in backpacks during class
- Students are in their assigned seat when the bell rings
- Students follow all laboratory safety procedures (goggles, proper handling of equipment, close-toed shoes, no food/drinks around chemicals)
  Failure to follow these rules will result in a write-up/removal from the activity.
- **Academic dishonesty (cheating/plagiarism) will not be tolerated.** Please see section VII in the student handbook for specific consequences.

Course Content:

1st Semester

- Forensic Science and Observation
- Crime-Scene Investigation and Evidence Collection
- Forensic Botany
- Hair & Fiber Analysis

- Fingerprints
- DNA profiling
- Blood and Blood Spatter
- Forensic Toxicology

2nd Semester

- Handwriting Analysis, Forgery, and Counterfeiting
- Forensic Entomology
- Death: Manner, Mechanism, Cause
- Soil Evidence

- Forensic Anthropology
- Glass Evidence
- Casts and Impressions
- Tool Marks
- Firearms and Ballistics

Note: The course outline is subject to adjustments to optimize the learning experience for students. Additional resources and references may be provided throughout the course to enhance understanding and engagement.

Acknowledgement:

Be sure that you and your parent/guardian read through and sign this syllabus (no typed signatures - open in Kami and sign with your stylus).

I, _____ (print name), acknowledge that I have read through the contents of this syllabus and understand Mr. Ly's expectations.

Student signature: _____   Date: _____

Parent signature: _____   Date: _____