RIVERSIDE HIGH SCHOOL

FORENSICS

**GOALS AND OBJECTIVES**

The goal of the course is to prepare our students for citizenship and advance their knowledge of science and how it fits in to the world we live in.  The course is designed to motivate students to continue to explore alternate fields of science.

**COURSE OUTLINE**

This course is designed to challenge students with topics such as fingerprinting, DNA analysis, blood typing and spattering, trajectories (for ballistics as well as blood spattering) comparative anatomy, and chemical analysis of drugs, poisons, and trace evidence, and the dynamics of Physics.

1. History and Development of Forensic Science
   1. Organization of the Crime Laboratory
   2. Services of the Crime Laboratory
2. The Crime Scene
   1. Processing the Crime Scene
   2. Legal Issues at the Crime Scene/ good lab techniques and safety
3. Physical Evidence
   1. Types of Physical Evidence
   2. Significance of Physical Evidence
4. Hairs, Fibers, and Paint
   1. Morphology of Hair
   2. Identification and Comparison of Hair
   3. Types of Fibers
   4. Comparison and Preservation of Fiber Evidence
   5. Forensic Examination of Paint
5. Fingerprints
   1. History of  Fingerprints
   2. Classification of Fingerprints
   3. Methods of Detecting Fingerprints
   4. Preservation of Developed Prints
6. Forensic Serology
   1. The Nature of Blood
   2. Forensic Characteristics of Bloodstains
   3. Stain Patterns of Blood
   4. Principles of Heredity
7. DNA
   1. What is DNA?
   2. DNA typing
   3. Gel Electrophoresis
   4. The Combined DNA Index System (CODIS)
   5. The Collection and Preservation of Biological Evidence for DNA analysis
8. Drugs
   1. Drug Identification
   2. Collection and Preservation of Drug Evidence
   3. Chemical Analysis of Drugs using Spectroscopy
9. Forensic Anthropology- bones and comparative anatomy, Bertillion measurements
10. Entomology- How bugs can give a time-line for death and bug morphology
11. Final Project
    1. Use of all the above techniques and information to create their own crime for another team of forensic scientists in their class to solve.
    2. Ability to solve a crime that is developed for them by another team of forensic scientists in their class or another class.

GRADES

Tests – 25%

Term Paper – 15%

Quiz – 10%

Lab Report – 10%

Class Assignment – 10%

Video – 10%

Final Project – 20%