

# Forensic Science

Castle View High School 2016-17

Instructor: Kyle Erlenbeck

Room: 9200

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erlenbeckscience.weebly.com

## Course Description:

This advanced science elective will focus on how the practices and habits of science are used in and applied to the judicial system. Students will learn techniques used by forensic scientists, observe and interpret patterns in data, and understand how to think analytically in order to solve problems. Topics will include, but are not limited to: forensic technology, time of death determination, microscopy, blood spatter analysis, genetic fingerprinting, and the future of forensic science. This class is heavily biased towards action and doing science.

## My Teaching Style:

I try to keep lecture and direct instruction to a minimum because evidence suggests that we do not learn best through passive acquisition of information from others. We learn best by getting up, getting messy, and doing. Students will be in the laboratory more often than not. In the instances that we are not in lab we will be engaged in class discussions, hearing from real-world experts, or visiting appropriate venues of forensic science.

## Course content and schedule\*

Unit	Unit Questions
1	<b>Evidence</b> – What is evidence and how do we determine what evidence is useful and what isn't?
2	<b>Microscopy</b> - What insights into criminal investigations can the microscopic world give us?
3	<b>Time of Death</b> – How is time of death determined and what can it tell us about a case?
4	<b>Serology (Blood)</b> – What secrets does blood hold and how can information from blood be interpreted?
5	<b>Genetics &amp; DNA</b> - How do Forensic Scientists use identity systematically to help solve criminal investigations?
6	<b>Forensics on Trial</b> - Are all methods used by forensic scientists reliable? What does the future of forensic science look like?
7	<b>Forensic psychology</b> – What can we learn from the mind and thoughts of serial killers?

*\*I reserve the right to adjust this schedule based at any time in the course.*

### **Grade Calculations and Policy:**

Students are evaluated based on their performance on class content, science practices, and a final project. The class content can vary from small assignments to lab write-ups. They will be evaluated on the development of their skills as a scientist using lab write-ups, presentations, projects, and reflections assigned throughout the course. Science practices will

Class Content (Labs, Investigations, Discussions):	50%
Science Practices	25%
Final Project:	25%

### **Course Expectations:**

Forensic Science is an amazingly interesting and stimulating class. I will work to ensure our classroom is a place of enthusiastic rigor where learning can occur and everyone feels safe and a part of the community. My non-negotiable expectations: Responsible, Respectful, and Safe will be followed by everyone, including myself. We will spend time discussing what this means in class in greater detail. Here is the cliffs notes version:

- **Responsible:** Be responsible for your learning by arriving to class on time and prepared. Ask for help if you need it!
- **Respectful:** Treat others with respect and dignity. Any bullying, physical, intellectual, or otherwise, will be dealt with immediately and harshly. I try to make my classes a safe harbor from the sometimes difficult world around us.
- **Safe:** Practice safe laboratory behavior and inform Mr. Erlenbeck of any accidents. Broken equipment isn't the end of the world, so just let me know.
- **Work should be turned in on time.** It will lose 25% of the available points every day it is turned in past the due date. Once an assignment is returned it may no longer be turned in later and will receive a zero in the grade book. This course is only nine weeks long and moves too quickly for late work to be accepted.

### **Everyday Materials:**

- Pen or pencil
- A composition notebook (for collecting data and free writes). It should be the classic marble, bound composition notebook.
- A flash drive (2gb is plenty)
- Erlenbeckscience.weebly.com

### **Donated Materials:**

*If you could bring in one of these items it would be an enormous help to me and the science department here at CV.*

- Expo markers
- Latex free gloves
- Paper towel

**Forensic Science Course Contract:**

By signing this agreement you are agreeing to all regulations expressed in this document and expressing your intent to abide by them. I am very firm in following these regulations.

\_\_\_\_\_  
**Student Name (Printed)**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Student Name (Signed)**

\_\_\_\_\_  
**Parent Name (Signed)**

\_\_\_\_\_  
**Date**

This document is due on: \_\_\_\_\_