

# CVA Forensic Science



**COBB VIRTUAL ACADEMY**  
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## Class Description

Forensic Science builds upon concepts from previous science classes with the application of science to the investigation of crime scenes. You will learn the scientific protocols for analyzing a crime scene, chemical and physical separation methods to isolate and identify materials, how to analyze biological evidence, and the criminal use of tools, including impressions from firearms, tool marks, arson, and explosives.

This course has three sections: CVA Forensic Science A is the first half of the class and includes Units 1-5. CVA Forensic Science B is the second half of the class and includes Units 6-10. CVA Forensic Science Y is the entire class and includes Units 1-10.

Click [HERE](#) Class Schedule which outlines the Units, Lessons, and Assessments for this course.

Click [HERE](#) for the State standards.

## Class Outline

### **Unit 1: Introduction to Forensic Science and Processing the Crime Scene**

This unit will give students an introduction to Forensic Science, and they will see how detectives process a crime scene to discover and analyze evidence.

### **Unit 2: Microscopes and Organic Analysis**

In this unit, students will learn about the devices forensic scientists use to analyze evidence and how they choose the right equipment to use.

### **Unit 3: Questioned Documents, Handwriting Analysis, and Computer Forensics**

This unit covers questioned documents like contested wills or forged checks, where forensic experts analyze and compare them to determine authenticity and authorship. The second half focuses on Computer Forensics, highlighting the importance of digital devices, such as smartphones and laptops, in forensic investigations due to their role in storing sensitive information and daily data.

### **Unit 4: Human Remains and Forensic Autopsies**

This unit covers how forensic scientists use evidence from inside and outside the body, including insect activity and decomposition, to identify and analyze remains, with many techniques remaining unchanged despite technological advances. The second half explains the role of autopsies in forensic investigations, emphasizing their importance in uncovering abnormalities and determining cause of death, despite the fact that only a small percentage of deaths are autopsied and death certificates can be inaccurate.

### **Unit 5: Forensic Anthropology and Entomology**

Lesson One introduces Forensic Anthropology, which involves analyzing human remains to determine characteristics like age, gender, and ancestry in legal cases. This field is crucial for dealing with remains that are decomposed, burned, or otherwise unrecognizable. Forensic Anthropologists use

skills in archaeological excavation, osteology, facial reconstruction, and physical anatomy to gather details that help reconstruct a person's life and appearance for investigations.

### **Unit 6: Analysis of Hair, Fiber, and Botanical Materials**

In this unit, students will learn how Forensic Investigators find important evidence from hair, fiber and botanical remains.

### **Unit 7: Fingerprints and DNA Analysis**

This unit explains how Forensic Investigators use fingerprints to identify suspects, noting their uniqueness with odds of 1 in 10 billion and their formation in the womb. The second half covers DNA identification, emphasizing that while 99.9% of human DNA is identical, the remaining 0.1% provides individual uniqueness, allowing for precise identification by comparing DNA sequences.

### **Unit 8: Forensic Toxicology and Serology**

The drug unit in a forensic lab identifies controlled substances through various tests, while the toxicology unit analyzes biological fluids and tissues for drugs, toxins, and alcohol. Forensic serology determines if stains are blood and if they are human, while blood spatter analysis aids in reconstructing crime scenes and validating testimonies.

### **Unit 9: Forensic Properties of Glass and Soil Evidence**

Forensic investigators must recognize the significance of diverse evidence, such as fingerprints, blood spatter, and glass fragments, and ensure proper collection and preservation for lab analysis. Glass and soil are frequently analyzed in crime labs, where forensic scientists distinguish their properties to match evidence to the crime scene or individuals involved.

### **Unit 10: Arson, Firearms, Ballistics, and Tool Marks**

Subtle variations in firearms and tools can link them to specific crimes or suspects, with investigators also studying projectile trajectories to understand the crime scene better. Arson and explosives, despite their destructive nature, leave valuable evidence that helps reconstruct events and connect materials to suspects, while tool marks from burglary can reveal the type and specifics of the tool used.

## **CVA Work Policy**

- All classwork must be completed and submitted using the links in CTLS by the DUE DATE listed on the Class Schedule.
- Work should be completed in the order it is assigned on the Class Schedule.
- All work submitted on time will be graded within 48 hours.
- Assignments not submitted by the due date will be marked missing. Missing assignments are calculated as zeros in the coursework average. When students submit missing work, the assignment will be graded and calculated into the coursework average.

The CVA term ends prior to the end of the traditional school semester. The final date work will be accepted each term is posted on the [CVA website](http://cobbvirtualacademy.org) (cobbvirtualacademy.org) and the Class Schedule.

## **Grading**

Grades for this course are calculated based on category percentages as follows:



Category	Weight
Assignments	20%
Experiments	25%
Quizzes	15%
Tests	30%
Final Exam	10%

## Academic Integrity

Academic integrity is the cornerstone of learning at CVA and we take the integrity and authenticity of student work very seriously. When academic integrity is maintained, students will make decisions based on values that will prepare them to be productive, meaningful, and ethical citizens.

Students are required to abide by the CVA Academic Integrity Policy. Academic dishonesty in any form will not be tolerated. The CVA Academic Integrity Policy outlines the consequences if students fail to maintain academic integrity in their course. For additional information, the CVA Academic Integrity Policy is posted on the [CVA website](#).

### Academic Integrity Process

Consequences	1st	2nd	3rd	4th
Parent contact by teacher	✓	✓	✓	✓
Resubmit work for full credit	✓			
Resubmit work for half credit		✓		
Automatic zero			✓	✓
Parent contact by CVA administration			✓	✓
Notification by CVA administration to local school			✓	✓
Mandated proctored exam or coursework				✓
Other as designated by CVA or local school administration	✓	✓	✓	✓



## General Information

- The Cobb Teaching and Learning System (CTLS) is the platform used to deliver Cobb Virtual Academy classes.
- Students must earn 100% on the Student Orientation Quiz located inside each CVA Digital Classroom before they begin their Student Coursework.
- All coursework must be submitted through CTLS.
- All CCSD students have access to Microsoft 365 applications and must submit assignments in the requested format.
- Students in all sections of this course will take an online final exam during the window of time published on the CVA website and the Class Schedule.

## Course Specific Information

There is no required textbook for this course. All content is digital and available in the online course.

## Technology Requirements

CTLS is geo-restricted to the United States.

- A modern PC or Mac Computer
  - Lightweight or mobile devices such as Chromebooks, iPads, Android tablets, or smartphones **may not** be compatible with many of our courses.
  - Windows or Mac based computer
- Access to Microsoft 365
- Internet access

## CVA Expectations

### Student

- Maintain consistent access to a computer and internet
- Login to the course daily and review the announcements
- Adhere to the deadlines listed on the Class Schedule
- Read and promptly respond to teacher communication
- Contact the teacher with questions
- Manage your time wisely

### Teacher

- Welcome Phone Call in the first two weeks
- 24-hour turnaround on all communication
- 24 – 48-hour turnaround on grading for items submitted by the due date
- Provide relevant feedback on assignments
- Be accessible via email and phone or text during published hours
  - Provide two or more live sessions per term



## CTLS Parent Account

Cobb Virtual Academy teachers use CTLS Parent to communicate with students and parents. Students will automatically receive communication sent from CTLS Parent via their CCSD student email address and will be asked to provide a cell phone number to receive text communications. Directions for students to set up CTLS Parent are located in the CVA Orientation. Parents will receive communications according to their existing notification settings.

## Student Support

A student's first source for support is their CVA teacher. However, additional support is available. The **CVA Learning Center** is staffed with facilitators and is available both **in person** and **virtually**.

Facilitators can assist students with getting started, class navigation, assignment instructions, submitting work, technical issues, and strategies for online success.

The in-person Learning Center is on the Cobb Horizon High School campus at 1765 The Exchange Atlanta, GA.

All CVA students are enrolled in the Student Support digital classroom which provides access to the Virtual Learning Center (VLC). Students use the CTLS chat feature to send a message to the Student Support Team during the hours it is open.

## Live Sessions

Your teacher will post live session information to the Class Board.

