

CVA AP Environmental Science Syllabus



COBB VIRTUAL ACADEMY
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Class Description

With the current changes in global climate, rising sea levels, and warming oceans, it is important for students to discover the state of Earth's systems and the consequences of human activities. AP Environmental Science provides students with a global view of their world and their role in it. It examines the scientific principles and concepts required to understand the interrelationships between ocean, land, and atmosphere that guide the natural world and allow Earth to be a planet suitable for life. Laboratory activities within the course support their learning of these relationships through reflective, hands-on, or virtual experiences. In addition, students identify and analyze environmental problems that are natural and human-made, determining their own ecological footprint in the world to discover how their activities affect the world around them. They evaluate the relative risks associated with environmental problems and examine alternative solutions, such as clean energy, sustainable practices, and conservation, for resolving or preventing future environmental problems.

This course has three sections: CVA AP Environmental Science A is the first half of the class and includes Units 1-4. CVA AP Environmental Science B is the second half of the class and includes Units 5-8. CVA AP Environmental Science Y is the entire class and includes Units 1-8.

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

Click [HERE](#) for the AP Environmental Science College Board Advanced Placement course information.

Class Outline

Unit 1: Ecosystems

This study of ecosystems will look at living organisms and the environment they inhabit and depend on for resources. The cycles involved in the processes – carbon, nitrogen, phosphorus, and hydrologic – will be studied. The impacts to humans and the ecosystem as a result of change will be addressed and analyzed. It is important to understand the cycling of matter and flow of energy through an ecosystem, and the role that living and nonliving parts of the ecosystem play in these processes.

Unit 2: Biodiversity and Populations

The concept of biodiversity is explored to show it is a key component in sustaining life in ecosystems across the globe. Evolution has played a critical role in biodiversity, and because of natural and human disruptions, there have been impacts to populations in ecosystems and ecosystem services. Factors that affect population growth will be evaluated, as well as the various ways demographers study changes in populations.

Unit 3: Earth Systems

The main emphasis of this unit is on energy transfer and the interactions between earth systems. It will start off with plate tectonics and the geological changes that occur to earth systems at plate boundaries, such as the creation of mountains, island arcs, earthquakes, volcanoes, and seafloor spreading. It includes an examination of the way rock is weathered and soil is formed, and how soil movement changes the topography of land formations. In addition, the composition of the atmosphere and its influence on climate is covered.

Unit 4: Natural Resources

Natural disasters aren't the only thing disrupting ecosystems. Human activities impact ecosystems, as well. Not all human and natural disasters are necessarily adverse. Volcanic eruptions can provide nutrients to the soil through the ash that settles on the land. Humans use natural resources in a variety of ways. This unit will focus on the human impact on ecosystems due to the use of natural resources from agricultural practices, clear-cutting, mining, and more.

Unit 5: Energy Resources

Energy consumption is a global concern. Finding ways to generate electricity and reduce the amount of greenhouse gases, as well as reduce the emission of other air pollutants, is paramount. Efficient production of electricity and use can reduce ecological footprints. Understanding where natural energy resources occur and the differences between renewable and nonrenewable energy forms can drive the efficiencies of different energy forms. This unit will focus on renewable and nonrenewable energy sources and their impacts on the environment.

Unit 6: Air Pollution

Smog forms in areas where there is heavy traffic. The combustion of fossil fuels releases carbon monoxide, carbon dioxide, sulfur dioxide, nitrogen oxides, and other particles into the atmosphere. These give way to other pollutants. Not only do we deal with pollutants in the outdoors, there are indoor pollutants as well, such as radon gas, carbon monoxide, particulates, dust and smoke, to name a few. This unit will focus on human activities and their physical, chemical, and biological consequences for the atmosphere and human health.

Unit 7: Water and Land Pollution

The focus of this unit is water and land pollution. Pollution sources can be easy to identify, but there are times when they are not. Interactions between different species, such as terrestrial and aquatic animals, with the environment can impact the health of everyone, including humans. Legislative action has been introduced over time to reduce discharges of pollution in water and regulate drinking water. Global concerns surround the amount of waste and the fate of terrestrial- and aquatic-dwelling organisms.

Unit 8: Global Change

Unless you have been affected directly by changes in climate, you may not notice any change at all. The focus of this unit is about educating and informing you of the climate concerns observed by scientists and conservationists all over the world and the changes that are needed to take place to minimize the impact.

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](#) (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%

CVA Exemption Incentive

To qualify for CVA's exemption incentive and exempt the Final Exam/lowest unit test or major assessment grade, CVA students must:

- Submit ALL assignments on OR before the due date
- Have an 85% coursework average or higher before the final exam
- Have no more than one academic integrity violation

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](#).



Consequence	Occurrence			
	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			✓	✓
Mandated proctored exam or course work				✓
Local school is notified of Academic Integrity violation		✓	✓	✓
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

This course will prepare students to take the College Board AP Environmental Science Exam administered at the end of the Spring Term. Registration for the AP Exam is completed through your local school. As part of the coursework, students will register for an account with [College Board AP Central](#) and actively engage with resources available there. The section Join Code and directions for accessing AP Central resources is available in the CTLS classroom in Unit 0.

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 – 48-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

Remind

CVA students and parents are automatically enrolled in their CVA teacher's Remind class based on the phone numbers provided during registration. If a parent and student provide the same cell phone number, they will not sync to Remind and will have to join the class manually using the join code posted on the Teacher Information page of their course.

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.

