

## AP Environmental Science Course Syllabus

Course Information			
Course Location	Smith 1009	Instructor	Mrs. Ashley King-Bennett (KB)
Course Days/Time	2 <sup>nd</sup> : 10:50-12:00 3 <sup>rd</sup> : 12:40-2:00	Phone	(336) 370-8580
Tutorial	8:45-9:15 MWF	Electronic Contact	<a href="mailto:kinga3@gcsnc.com">kinga3@gcsnc.com</a> Remind: @kingsoph23
AP Classroom Code			

### Course Description

The goal of the AP Environmental Science course is to provide you with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them.

This course is taught using a blended learning framework. This framework requires students to do the front loading of information outside of class. You will be required to watch videos, read textbook selections (which are *college level* and *information dense*), and take adequate notes on the information presented to you.

### Course Objectives

At the end of AP Environmental Science, students will be able to:

- Apply principles and generalizations already learned to new problems and situations.
- Use analytic and problem-solving skills to understand scientific problems and literature.
- Synthesize and integrate information and ideas to develop well-thought out written responses.
- Demonstrate techniques and methods used to gather and interpret data in a laboratory setting.
- Distinguish between fact and opinion and cultivate an understanding of contemporary environmental issues.
- Develop and demonstrate academic writing and speaking skills, including proper citation, attribution, and professional discourse

### Instructional Materials

Provided for You	You Should Bring
<ol style="list-style-type: none"><li>1. <i>Environmental Science for the AP Course</i> by Friedland &amp; Relyea</li><li>2. <i>Environmental Science</i> by BIOZONE</li><li>3. <i>AP Classroom</i> by College Board</li><li>4. Canvas LMS Access</li></ol>	<ol style="list-style-type: none"><li>1. Notebook to take notes (typed personal notes are okay as well)</li><li>2. Loose Leaf Notebook Paper</li><li>3. Pens (blue or black ONLY) and/or Pencils</li><li>4. Calculator (Scientific or TI-84 ONLY, cell phone calculators not allowed)</li><li>5. <i>The Story of Stuff</i> by Annie Leonard (Green Cover)</li><li>6. GCS issued Chromebook with charger (Required)</li></ol>
Students will have access to the internet on campus but should also be prepared to work online with materials outside of school time. <i>Reliable internet access is required for this course. Students are required to actively engage with the Canvas Learning Management System and AP Classroom Platform in order to succeed in this course.</i>	

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It will also be useful if you have a set of old clothes that you don't mind getting dirty or damaged for days where we are completing "dirty" labs or doing field work. You may want a pair of shorts *and* a pair of pants as well as some closed toed shoes that you don't mind getting dirty, wet, or muddy.

### Instructional Methods

This class will be made up of a variety of instruction methods based on the needs of the class as a whole and of individual students. The primary method of instruction is a blended framework. Using the Canvas LMS, you will have access to instructional videos, additional readings, textbook guidelines, and collaborative notes documents to engage with new material. Class time will primarily be focused on laboratory investigations, group and individual projects, and individual or small group interventions. Some direct instruction through lecturing will take place, but this practice will be abbreviated versions of what students have access to via videos in Canvas.

This course is year long as it is paired with an environmental laboratory that will provide students with an additional course credit.

### Grading Policies

#### *Grade Reporting*

There will be a variety of assignments and opportunities to demonstrate knowledge given throughout the school year. Most graded work will take place in class. Work done outside of class will be for practice or preparation for the next lesson. You will receive separate grades for the lecture component and laboratory component as they are listed as two separate courses in PowerSchool.

Your final **COURSE** grade will be calculated using the following weights:

Homework/Outside of Class Assignments	5%
In-class Work	5%
In-class Quizzes (Announced/Unannounced)	15%
Projects	20%
Tests (10)*	35%
<u>Final Exam (Mock AP Exam)</u>	<u>20%</u>
	100%
*9 Unit tests and midterm Mock AP Exam	

Your final **LAB** grade will be calculated using the following weights:

Pre-labs	5%
Quizzes	10%
Data Presentation & Analysis	15%
Laboratory Reports	20%
Tests	30%
<u>Final Exam</u>	<u>20%</u>
	100%

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### *Late Work*

While each of you are unique and may learn at a different pace, completing late work makes it difficult to provide you with timely and useful feedback for your learning and growth. You do yourself a disservice in submitting late work as you deprive yourself from the opportunity to have real time feedback. The majority of work—beyond unit tests and quizzes—will be assigned and collected via Canvas. Late work of any kind is not accepted.

For the vast majority of assignments such as projects and tests, you will have the date of those either at the beginning of the semester or several weeks in advance.

### *Homework*

Most of the homework will be completing personal notes by watching videos and reading selections from the textbook or other sources. Other homework opportunities will be made available for you on an optional basis and will not be graded. You will be notified well in advance if an assignment will be graded.

### *Dropped Grades & Extra Credit*

Each quarter, your lowest in-class quiz grade will be dropped.

Your midterm and final exams will be AP practice exams. These *will* count toward your final grade, and only the midterm will be curved as it covers the entirety of the course material only halfway through.

The midterm will serve as the final exam for the AP Environmental Science course. The final will count as the final exam for the Laboratory course.

### *Attendance Policy*

Good attendance is essential for student achievement and success. Students must attend a 45-minute extra help session for each unexcused absence over 3 in a class period in a nine weeks period. For students who have 5 or more absences in a class period in a nine-week period, parents/guardians must request a waiver to avoid the student receiving a NC/65 for the class due to attendance.

It is the responsibility of the student on the first day of his/her return to school following an absence to arrange for make-up time and/or work. ***All assigned make-up work will be completed outside of regular class time within 3 school days (except in the case of consecutive multiple absences). The 3 days begins the day you return to school, regardless of A/B day.***

Students should check the Absent Folders for returned assignments, feedback rubric, or distributed materials. All assessments must be scheduled and completed by the student within 3 school days regardless of A/B day. Missed quizzes or tests are the responsibility of the student to reschedule within 3 school days, regardless of A/B day. The instructor will NOT remind students of the need to reschedule or pick up missed work.

## **Policies & Procedures**

Arriving on time to class is a sign of preparation and respect for me and for your peers. It reduces lost time and distractions. “On time” means being in your seat and ready to begin at the designated start time of class.

Be prepared. Do the work.

Please turn your devices off so that no ringers, alarms, buzzing, or lights distract your classmates. A place will be designated for you to store your phone while it is charging (if needed). Otherwise, your device should be out of sight. Bring your Chromebooks and chargers—but make sure your Chromebook is charged before class!

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Know yourself and when/where you need help.

Be familiar with the schedules and the guidelines in this syllabus or on Canvas.

Correspond with me and your peers in an effective and respectful manner. Always include a subject in your emails and sign them with your name.

Participate fully, even when you don't think you know something. Failure is the path to growth. **If you aren't failing, you aren't learning.**

Always behave with respect, responsibility, and integrity. You are judged by your character, and only you control that. Own up to mistakes, work honestly, lose with grace, and treat others as you want to be treated. You only get one opportunity to establish your character with someone—establish the best one you can.

Check Canvas often. Information that is important to you will be posted here. I will also communicate with you there extensively.

Students are responsible for complying with and are expected to be familiar with the GCS Code of Student Conduct and School Board policies governing student behavior and conduct. All Code of Student Conduct policies are contained in the GCS Student Handbook and the STEM Early College Handbook, which is distributed to all students and parents at the beginning of each school year. If there is a conflict between the rules expressed in this syllabus, the GCS Code of Student Conduct policies shall take precedence. Any violation in the code of student conduct will result in disciplinary actions outlined in your student agenda.

### **Academic Integrity Policy**

#### *Definitions*

Academic integrity—or academic honesty—is a vital part of your character at The STEM Early College. Each student is expected to uphold the values of integrity, honesty, discipline, and responsibility in and out of the classroom. For any graded assessment, you will be required to sign an academic integrity statement.

Any student who engages in or attempts to engage in plagiarism, falsification, violation of software copyright laws, or violations of computer access may be subject to academic and/or disciplinary sanctions. While studying together and learning together is a valuable skill, do not share your work with others. You cannot assume that others have the best intentions when seeing your work.

Academic dishonesty in the context of this course includes but is not limited to:

- Disclosing assessment content during or after you have taken an assessment—either to those in the same or a different course section
- Removing assessment materials from the classroom without permission
- Copying material from another student, or from another source such as the internet, that is submitted for grading unless the instructor provides you with explicit permission to do so
- Plagiarism, including use of internet or other material without complete and proper citation
- Using cell phones or other electronics to obtain outside information during an assessment without explicit permission from your instructor
- Submitting your own work in one class that was completed for another class (self-plagiarism) without explicit permission from your instructor (University of Montana College of Business, 2021)

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### *Sanctions*

AP Environmental Science has a tiered approach to dealing with academic dishonesty. Violations of the academic integrity policy are organized by the severity and/or the purposefulness of the choice made by the student during the violation.

**Tier 1:** This tier includes actions such as improper or missing citations in a paper.

*1st Offense:* The student is provided with a written explanation of why the offense is considered a violation. A meeting with the parent and student is organized to prevent further violations.

*2nd Offense:* The student must schedule a time to complete an alternate assignment in the teacher's presence for 50% original credit. A meeting with the parent and student is organized, and the student must complete and present an academic integrity project.

*3rd Offense:* The student receives a zero on the assignment and is given a disciplinary referral. A meeting with the parent, student, teacher, and administrator is organized.

**Tier 2:** This tier includes actions such as using unapproved sources or modes of information on an assignment, unapproved collaboration, copying from another student and presenting that work as your own for a grade or to gain an advantage in the class, or sharing information about a quiz or test (verbally, in images, or over social media).

*1st Offense:* Student is given a written explanation of the offense and a meeting with the parent, student, and teacher is organized to prevent further events. The student will receive a zero on the assignment for deliberate dishonesty.

*2nd Offense:* Student is given a zero on the assignment and a disciplinary referral. A meeting with the parent, teacher, student, and administrator is organized.

**Tier 3:** This tier is the deliberate act of cheating on a test or falsifying one's behavior regarding an assignment.

*1st Offense:* Student will receive a zero on the assignment and a disciplinary referral. A meeting with the parent, teacher, student, and administrator is organized.

The **two-party rule** holds that the person who *knowingly* allows the copying or cheating is just as guilty in the act as the person who is doing the copying or cheating. When two or more students are "suspect" in an act of academic dishonesty, all students will be reprimanded.

### **Course Schedule of Topics**

A tentative schedule is attached to this syllabus. It is your responsibility to be aware of what preparation work and major assignments are required as you will not always be given a reminder in class. It is a good idea to check Canvas daily to ensure that you have completed all preparation assignments needed for the day as well as any upcoming assignments. If we miss a day of school due to weather, you are responsible for completing the assignments as they are assigned.

Throughout the school year, students will be reading the book *The Story of Stuff* and will be completing components of a group project that is due in April before the AP Exam.

## **AP Environmental Science Course Syllabus**

### **UNIT 1: Foundations of Environmental Science**

- 1.1: What is environmental science?
- 1.2: Scientific method and math practice
  - Laboratory Investigation #1: Experimental Design, Data Collection, and Data Representation
- 1.3: Foundational ideas and theories of environmental science
- 1.4: Environmental history
  - Project #1: Environmental history poster
- 1.5: Environmental physics and economics
- Unit 1 Test

### **UNIT 2: Earth Systems, Resources, and Their Use**

- 2.1: Biogeochemical Cycles
- 2.2: Geology, Plate Tectonics, & Soil
  - Laboratory Investigation #2: Soil Characteristics & Identification
- 2.3: Atmosphere, Greenhouse Effect, and Ozone Depletion
  - Project #2: Concept teaching posters
- 2.4: Climate & Weather
  - Project #3: Climate Change Debate
- 2.5: Water Resources
  - Project #4: Water Diversion & Use Presentations
- Unit 2A Test
- 2.6: Types of Energy Resources & Their Use
- 2.7: Fossil Fuels
- 2.8: Nuclear Power
  - Project #5: Nuclear Disaster Mock Trial
- 2.9: Renewable Energies
  - Laboratory Investigation #3: Wind Turbine Design
- 2.10: Energy Conservation & Solutions
  - Laboratory Investigation #4: Energy grid development
- Unit 2B Test
- Unit 2 Complete Test

### **UNIT 3: Populations**

- 3.1: Population Ecology
  - Laboratory Investigation #5: Bubble Survivorship
- 3.2: Human Population Dynamics
- 3.3: Human Population Size
  - Laboratory Investigation #6: Cemetery Population Demography
  - Project #6: Country poster
- 3.4: Human Population Impacts
  - Project #7: Population management debate
- Unit 3 Test

Students will also take part in an event known as the Hunger Banquet the day after returning from Thanksgiving break.

### **Midterm: Mock AP Exam**

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### **UNIT 4: Resource Use and Implications**

4.1: Agriculture and Animal Husbandry

4.2: Forestry and Rangelands

4.3: Public and Private Land

Project #8: Urban Area Design

4.4: Mining

Laboratory Investigation #7: Cookie Mining

4.5: Fishing

Unit 4A Test

4.6: Air Pollution

Laboratory Investigation #8: Particulate Lab

4.7: Water Pollution

Laboratory Investigation #9: Water Quality Lab

4.8: Solid Waste

Project #9: Household Toxic Waste Audit

4.9: Toxicology and Human Health

Laboratory Investigation #10: LD-50 Salinity Lab

Unit 4B Test

Unit 4 Complete Test

### **UNIT 5: Ecosystems & Maintaining Biodiversity**

5.1: Ecosystems & Energy Flow

5.2: Biodiversity

Project #10: Invasive Species Wanted Poster

5.3: Maintaining Biodiversity

Project #11: Zoos as conservation debate

Unit 5 Test

### **Exam Review**

All of April will be devoted to review for the AP Exam using the Hunger Games review game.

### **Final: Mock AP Exam**

### **AP Exam: Thursday, May 9, 2024 @ 8 AM**