Glynn Academy

AP Environmental Science Syllabus

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**Course Description**

AP Environmental Science is an interdisciplinary, applied science course taught at a level equivalent to a college-level environmental science course. It involves biology, chemistry, physics, geology, ecology, economics, political science, and mathematics. The course has both theoretical and practical components, as well as a laboratory component. At a minimum, twenty-five percent of instructional time is devoted to hands-on laboratory work with an emphasis on inquiry-based investigations. Investigations require students to ask questions, make observations and predictions, design experiments, analyze data, and construct arguments in a collaborative setting, where they direct and monitor their progress.

**Student Selection**

AP Environmental Science is open to all students that have successfully completed Biology and/or Chemistry. Students may take this course concurrently with Honors Chemistry and those students have to have the instructor’s permission to do so. Students should be motivated learners and should be capable of reading a college-level textbook.

**Environmental Science Big Ideas**

The course is based on four Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the Earth’s environments. These include:

1. **Energy Transfer:** Energy conversions underlie all ecological processes. Energy cannot be created; it must come from somewhere. As energy flows though systems, at each step, more of it becomes unusable.
2. **Interactions between Earth Systems:** The Earth is one interconnected system. Natural systems change over time and space. Biogeochemical systems vary in ability to recover from disturbances.
3. **Interactions between Different Species and the Environment:** Humans alter natural systems and have had an impact on the environment for millions of years. Technology and population growth have enabled humans to increase both the rate and scale of their impact on the environment.
4. **Sustainability:**  Human survival depends on the developing practices that will achieve sustainable systems. A suitable combination of conservation and development is required. The management of resources is essential. Understanding the role of cultural, social, and economic factors is vital to the development of solutions.

**Environmental Science Curricular Requirements**

The course provides instruction in each of the following nine content areas outlined in the AP Environmental Science

*Course Description*:

1. The Living World: Ecosystems (6-8%)

2. The Living World: Biodiversity (6-8%)

3. Populations (10-15%)

4. Earth Systems and Resources (10-15%)

5. Land and Water Use (10-15%)

6. Energy Resources and Consumption (10-15%)

7. Atmospheric Pollution (7-10%)

8. Aquatic and Terrestrial Pollution (7-10%)

9. Global Change (15-20%)

**Text:**

Miller, Living in the Environment (17th edition) 2012

Other articles and materials as provided in class

**Grading Policy**

(Grades are posted regularly on Infinite Campus so students/parents can monitor their current grade)

55% Tests, major labs, and projects

30% Daily work, Homework, small labs, online assignments

15% Final Exam

**Major Course Component Descriptions**

**In & Out of Class Assignments:** In-class assignments will consist of assignments that enhance and reinforce the Big Ideas and the Science Practices curriculum. These assignments can be in the form of graphical and data analysis, POGILs, case studies, building models, concepts maps, worksheets, FRQ notebook entries, and assignments from reinforcement workbooks. Out of class assignments will include reading, reinforcement worksheets, projects, and completing unfinished classwork. If the student does not complete their assignments, he/she will not be prepared to participate in class discussions and investigations and will ultimately not perform as successfully on assessments and the AP exam.

**Investigations (Labs):** Student-directed laboratory investigations are used throughout the course to allow students to apply the seven science practices as required by the College Board. Per the APES Curriculum Framework, students will be conducting at least two lab investigations in each of the four Big Ideas to support and reinforce the learning of the Big Ideas and utilize a minimum of 25% of class time. The process of laboratory investigations, and furthermore science, is a collaborative effort. All students will be completing lab assignments in small groups of 2-5 students. Each student will be assigned a group and a role in that collaborative group which will change for each investigation. It is the expectation of the teacher that the collaborative groups work together to solve issues, maintain a safe and clean working environment, and to respect and share ideas between members of their own collaborative groups. Everyone is expected to contribute to the investigation process and conduct the responsibilities of their assigned role. If a member of the group is absent and fails to communicate with their lab group and/or teacher concerning missing a lab day, this could potentially have a negative impact on the group’s investigation and that specific student’s grade. If the student is going to miss multiple days of an investigation, then an alternative lab will be assigned if the absence has been excused. Depending upon the investigation, students will either be graded individually or each group will end up with a single grade.

**Assessments:** Summative assessments are in a format that will model the AP exam and will include Multiple Choice, Grid-In Response, and Free Response Questions. Summative assessments will occur at the end of a major concept or unit and will be timed to introduce skills for time management in preparation for the AP Exam. Summative assessments will be given over the span of two days in two sections. Day 1 will be the multiple choice and grid-in responses. Day 2 will be the free response questions.

Additionally, formative assessments (quizzes) will be given regularly to assess student understanding of a small section of content or a concept. A midterm will be given to all students and a final exam will be given to all students. The AP exam is optional.

**Make-Up Policy:** It is the student’s responsibility to get any missed assignments due to an excused absence. Students are allowed one day per number of days absent to make up missed work. Alternate assignments may be given to students who are absent.

**Required Class Supplies:**

Two composition notebooks (100 sheets minimum, lined NOT graph paper), pencils, pens (black and blue required, various colors preferred), colored pencils, various colored highlighters, sticky notes and/or tabs for organizing notebook

**Class Survival Necessities:**

* Maintain your notebook.
* Study hard and do all assignments. Go back and review old material. Read, Read, and Read!
* Use teacher website and resources listed/given.
* Be sure to make up all missed work. It is your responsibility to get all missed assignments.
* Stay with the pace of the course – do not get behind.
* Ask questions when you don’t understand or come after school for extra help.

**AP Exam:** The AP Environmental exam is Monday, May 11, 2020. The cost of the test is around $95. All students qualify for one free STEM exam! Additionally, students that qualify for fee reduction assistance (based on family income/free or reduced lunch status) pay $53 per exam. The Georgia Department of Education will only pay for one exam for students that qualify for fee reduction assistance for a STEM course, which includes AP Environmental. The deadline to register for the exam without a late fee is **October 15, 2019**.

 **Student Responsibilities:**

1.Be in class, on time, in your seat with books, notebooks, and writing utensil ready to participate and learn.

2. Before entering the room, make sure that your cell phone is turned off or on silent and is placed in your book bag, your Glynn Academy issued ID is around your neck, and your clothing meets the dress code policy. Consequences will occur immediately if these rules are not followed. NO EXCEPTIONS.

3. Do nothing to interfere with teaching.

4. Do nothing to interfere with learning (both your learning and the learning of those around you).

5. Respect all individuals in the classroom.

6. Do not give up because it is hard. Push yourself. Ask for help. This is very doable, but you have to do it!

\*Cell phones may not be visible in my classroom. This is for your benefit to limit distractions and optimize learning. As you enter the room, you should place your powered off/silenced (no vibrating or flashing) electronic device into a secure location. If you are using a cell phone without my permission, your phone will be taken up and turned over to administration and a discipline referral will be completed. It is my expectation that you are fully engaged for the 45 minutes that you are in my room. There will be certain situations in which cell phones will be permitted in the lab for instructional purposes or photographs. Thank you for adhering to this policy. It is in place to optimize your learning and minimize distractions! You will thank me when you get a passing AP exam score!

**Step-by-Step Disciplinary Action: (exceptions are cell phones and cheating)**

1.Verbal warning.

2. Stay after class a minute or two to discuss problems with me.

3. Contact parent/guardian.

4. Afternoon detention to be served as assigned.

5. Further action will result in a referral to the office and will be handled at the administrative level.

Cheating on any type of assignment will not be tolerated. Cheating is turning in any work as your own that you did not do yourself and/or participate as an active member in contributing and completing. It also includes obtaining answers from another student on an assessment (with or without their permission). Students caught cheating will receive the following consequences:

1st offense - Zero on the assignment (an alternate assignment may be given at my discretion) and call to parent.

Each subsequent offense - Zero on the assignment (no alternate assignment given) and an official disciplinary referral to administrator.