

AP Environmental Science Syllabus

B. Carl Rush, Green Hope High School

Course Description

The AP Environmental Science (APES) course is designed to be the equivalent of a one-semester, introductory college course in environmental science. The goal of the APES course is to provide students 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. Students are expected to take the APES exam, given in May, for which they may receive university credit.

Prerequisites

Prior to enrollment, APES students should have successfully completed Honors Biology, Honors Chemistry and Common Core II. Completion of English 10 is also highly recommended.

Grading Policy

Quarter grades are issued with the following criteria: Tests 70%, Labs 14%, Projects 9%, Service Hours 5% and Smart Lunch 2%. The final exam will count 20% of the final course grade. In accordance with Wake County Public Schools, the following grading scale is used: A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = less than 60. Grades are calculated according to weighted average and I will not override those calculations (ie. grades will not be “bumped”). **All late work is graded at 50% of the original earned grade.** For example, an assignment receiving a 90% would receive a 45% if turned in late. Late work is accepted until an announced date prior to the end of each interim period. As per WCPSS policy, students will receive two quality points toward their GPA with an AP course. Beginning with the class of 2019, students will receive one quality point toward their GPA with an AP course.

AODM & Tutorials

An Additional Opportunity to Demonstrate Mastery (AODM) is available for each unit and may be completed **once per quarter**. Students may receive a maximum of five points towards their lowest exam grade, with no final score exceeding a 100%. The AODM must be submitted to www.turnitin.com, a plagiarism checking website, before an announced date prior to the end of quarter. As per GHHS policy, students must complete **two tutorials per quarter**. Students are responsible for signing the tutorial book to obtain credit. I am available for tutorials every day before school, after school and during lunch in room 316.

Attendance

Students with excused absences are responsible for completing any missed work within two days for each day absent. For example, a student absent two days must turn in all make-up work within four school days of their return. Students with three unexcused tardies will receive a detention and an administrative referral. Detentions are served for 30 minutes after school. It is the responsibility of the student to arrange for transportation home at the conclusion of the served detention. If tardiness becomes chronic, administrative action will occur. **Four tardies will also count as one absence when calculating senior exemptions for the final exam.** Seniors may be exempt from the final exam if they have an A average with three absences (or less), a B average with two absences (or less), or a C average with one absence (or less).

Online Resources

Class announcements, lecture notes, a notebook checklist and much more are available to all students and parents at www.sciencrush.net. Daily reminders are available through twitter by following [@sciencrush](https://twitter.com/sciencrush). Grades are posted for students and parents through PowerSchools. Email (brush@wcpss.net) is typically the most efficient form of communication for any questions or concerns.

Materials Needed

Students need to maintain a three-ring notebook containing all assignments in chronological order. Students will also need graph paper, pens, and pencils and one composition notebook per lab group for the course. The textbook used is *Living in the Environment: Concepts, Connections, and Solutions*, 16th edition, by Miller and Spoolman (ISBN#0-495-55671-8).

Field Experiences

APES has a strong field component, and students are required to participate in field experiences. During fieldwork, which is conducted at least biweekly, students will need to dress for the weather and protect themselves from insects. A cabinet for “stream boots” is provided in the classroom. Students may get a little hot, a little cold, or a little wet, all in the name of science!

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Community Service

In order to develop a sense of stewardship within APES students, each is required to complete 15 hours of environmental community service. Five hours are due at the end of the first (or third) quarter with ten additional hours due by the end of the semester. If students complete more than five hours in the first quarter, the additional hours will rollover to the second. If a student fails to show up for an event they signed up for or removes their name from sign-up genius within 24 hours of the event, five points will be deducted from their grade. This deduction may be avoided by finding a replacement or emailing Mr. Rush/Ms. Magee before the posted event start time. Many opportunities will be provided, with sign-up via the website sign-upgenius. If searching for your own service opportunities, please **DO NOT contact Hemlock Bluffs Nature Preserve or Lake Crabtree; they already provide us with all available opportunities.** Students completing events not sponsored by Green Hope must fill out a service form and attach a photo. Community service activities that do not benefit the environment or an environmental organization, while commendable, do not count towards your service requirement (ie. Habitat for Humanity, Landscaping & Beautification Efforts, Food Bank).

Green Hope Honor Code

Green Hope High School is a school community that is committed to integrity and excellence in academics and in personal accountability. Because of this commitment, it is imperative that all members of the Green Hope High School community embody personal honor, personal integrity, and personal responsibility. Therefore, it is expected that each person at Green Hope High School will uphold the honor code. Details of the Green Hope High School Honor Code and specific consequences of infractions can be found on the Green Hope website and in the student handbook.

Course Outline

1st Quarter

Environmental Problems, Their Causes, and Sustainability
Science, Matter, Energy, and Systems
Ecosystems: What Are They and How Do They Work?
Biodiversity and Evolution
Biodiversity, Species Interactions, and Population Control
The Human Population and Its Impact
Climate and Terrestrial Biodiversity
Aquatic Biodiversity
Sustaining Biodiversity: The Species Approach
Sustaining Terrestrial Biodiversity: The Ecosystem Approach
Sustaining Aquatic Biodiversity
Food, Soil, and Pest Management
Water Resources

2nd Quarter

Geology and Nonrenewable Minerals
Nonrenewable Energy
Energy Efficiency and Renewable Energy
Environmental Hazards and Human Health
Air Pollution
Climate Change and Ozone Depletion
Water Pollution
Solid and Hazardous Waste
Sustainable Cities
Economics, Environment, and Sustainability
Politics, Environment, and Sustainability
Environmental Worldviews, Ethics, and Sustainability