FORSYTH COUNTY COURSE SYLLABUS
2019-2020

AP Environmental Science	E-MAIL:	Mcooper47@forsyth.k12.ga.us
Teacher: Mary Cooper (Room: 1313)	PHONE: 770-781-2264	EXT: 101313

Course Description: The AP Environmental Science (APES) course is designed to be the equivalent of a one-semester, introductory laboratory college course in environmental science and follows The College Board topics for the AP Environmental Science examination. The major themes for this course as indicated by the AP Environmental Science course guide include Earth systems and resources, the living world, populations, land and water use, energy resources and consumption, pollution, and global change. Students are expected to take the AP exam in May. The APES 9 course requires a rigorous college level lab component and utilizes a college text. More detailed information can be located at the following web address https://apcentral.collegeboard.org/courses/ap-environmental-science/course

Standards: Environmental science is an interdisciplinary course; it embraces a wide variety of topics from different areas of study. Yet there are several major unifying constructs, or themes, that cut across the many topics included in the study of environmental science. The following themes provide a foundation for the structure of the AP Environmental Science course.

1. Science is a process.
    - Science is a method of learning more about the world.
    - Science constantly changes the way we understand the world.
2. Energy conversions underlie all ecological processes.
    - Energy cannot be created; it must come from somewhere.
    - As energy flows through systems, at each step more of it becomes unusable.
3. The Earth itself is one interconnected system.
    - Natural systems change over time and space.
    - Biogeochemical systems vary in ability to recover from disturbances.
4. Humans alter natural systems.
    - Humans 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.
5. Environmental problems have a cultural and social context.
    - Understanding the role of cultural, social and economic factors is vital to the development of solutions.
6. Human survival depends on developing practices that will achieve sustainable systems.
    - A suitable combination of conservation and development is required.
    - Management of common resources is essential.

Honor Code Statement: *The following statement is to be written on all assignments and assessments* **"This work is completely my own, and is neither the work of someone else, nor an unacknowledged, outside source. I will not share my work, or the contents of any assessment, with others."**

Learning Resources/Textbook(s):
Miller, G. T. & Spoolman, S. (2015). Living in the environment, 18th ed. ISBN: 9781133940135
**All students will have access to an online textbook through the Mindtap platform. Students will receive their login code within the first few weeks of class.

Course Structure:
Instruction will consist of a mixture of lecture, discussions, demonstrations, warm-ups, student directed inquiry, group, and individual projects.
Homework consists of assignments to practice new found skills and knowledge, reading case studies, preparing for discussions, work on individual/group projects, and upkeep of the interactive notebook.
Unit Assessments will be modeled after the AP exam and will consist of multiple choice and free response type questions.
**itslearning and Remind will be used extensively to communicate with students- it is the expectation that students will join remind and check itslearning daily.

Required Assignments: The order and dates that sampling of topics covered may change in order to enhance the efficiency and effectiveness of the course. Additional activities are planned and note that activities are subject to change at teacher discretion.

Fall Semester

I. Scientific Principles and the Chemistry and Math of APES ~3 weeks
- a. Scientific Inquiry and Methodology Lab
- b. Chemical and Physical Change Lab
- c. Half-Life Lab Simulation
- d. Dimensional Analysis and Problem Solving

II. Principles of Ecology and Biodiversity ~4 weeks
- a. The Tragedy of Commons Lab
- b. Ecological Footprints
- c. Lorax vs. Easter Island
- d. Biodiversity Lab
- e. Predator/Prey Simulation
- f. Harkness Discussion #1

III. Populations and Ecosystems, Human Population Dynamics and Urbanization ~4 weeks
- a. Human Population Growth around the World
- b. Climatograms
- c. Biome Characteristics
- d. Harkness Discussion #2

IV. Sustainability of Ecosystems ~4 weeks
- a. Mock Trial Logging Industry
- b. Forestry, Rangelands, and Conservation

Spring Semester

V. Agriculture and Soil Dynamics ~3 weeks
- a. Soil Analysis Lab
- b. Sustainable Agriculture
- c. GMOs
- d. Mining Practices
- e. Harkness Discussion #3: Guided Viewing of Documentary

VI. Energy Resources ~4 weeks
- a. Plate Tectonics and Geological Change
- b. Renewable vs. Nonrenewable Energy Resources
- c. Energy Calculations
- d. Energy Project

VII. Toxicology and Pollution ~4 weeks
- a. LD50, infectious diseases, and indoor pollutants
- b. Primary vs. secondary pollutants
- c. Wastewater Treatment
- d. Landfills and Types of Waste
- e. Layers of the Atmosphere
- f. Harkness Discussion: *Silent Spring*

VIII. Laws, Treaties, People, and Places ~1 week

IX. AP EXAM REVIEW ~2 weeks

Availability for Extra Help: Mornings 7:45-8:15, Tuesday afternoon 3:40-4:15

Makeup Work: Make up work is defined as work assigned during a student's absence, not work assigned prior to an absence. The student has five (5) school days upon returning to school to complete make-up work. The teacher has the discretion to grant a longer period to make up work, if there are extenuating circumstances.

Grading Calculations:
EOC Course Average = 40% (1st Sem. Course Work) + 40% (2nd Sem. Course Work) + 20% EOC
1st & 2nd Semester Course Work = 75% Summative + 25% Formative

Non-EOC Course Average = 50% (1st Sem. Course Work) + 50% (2nd Sem. Course Work)
1st and 2nd Semester Course Work = 75% Summative + 25% Formative
Concept of formative assessment: http://pareonline.net/getvn.asp?v=8&n=9

Grading Policy:
A = 90 – 100
B = 80-89
C = 70 – 79
Failing = Below 70

**Formative Assessments include, but are not limited to homework, class work, practice tests, rough drafts, and sections of projects/ research papers/presentations.*

**Summative Assessments include, but are not limited to unit tests, final projects, final essays, final research papers, and final presentations.*