Name: _____

Date: _____ Period: ___

Advanced Placement Environmental Science

Ms. Cheyenne Pompei **Room: 322**

Web site: https://www.cabarrus.k12.nc.us/Domain/11817

Email: cheyenne.pompei@cabarrus.k12.nc.us

Course Description:

The entire curriculum is available online at:
https://apcentral.collegeboard.org/pdf/ap-environmental-science-course-and-exam-description.pdf

The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. Unlike most other introductory-level college science courses, environmental science is offered from a wide variety of departments, including geology, biology, environmental studies, environmental science, chemistry, and geography. Depending on the department offering the course, different emphases are placed on various topics. Some courses are rigorous science courses that stress scientific principles and analysis and that often include a laboratory component; other courses emphasize the study of environmental issues from a sociological or political perspective rather than a scientific one. The AP Environmental Science course has been developed to be most like the former; as such, it is intended to enable students to undertake, as first-year college students, a more advanced study of topics in environmental science or, alternatively, to fulfill a basic requirement for a laboratory science and thus free time for taking other courses.The design of the laboratory components keeps the seven science practices outlined by College Board in mind:

Science Practice 1: The student is able to explain environmental concepts, processes, and models presented in written format.

Science Practice 2: The student can analyze visual representations of environmental concepts and processes.

Science Practice 3: The student can analyze sources of information about environmental issues.

Science Practice 4: The student can analyze research studies that test environmental principles.

Science Practice 5: The student can analyze and interpret quantitative data represented in tables, charts, and graphs.

Science Practice 6: The student can apply quantitative methods to address environmental concepts.

Science Practice 7: The student is able to propose and justify solutions to environmental problems.

Textbook:

Friedland, Andrew and Rick Relyea. *Environmental Science for the AP® Course.* 3rd ed., Bedford, Freeman, and Worth, 2019.

To Be Successful in AP:

1. Use your time wisely: One of the most difficult things about any AP course is time management. There are severe time constraints throughout the year. Make sure you stay organized with regard to assignment due dates and test dates. Often as 1-2 hours EVERY night will allow students to stay on top of all assignments. Once a student falls behind, it can be difficult to catch up. Don't wait until the night before to complete assignments or study for a test. **Never assume that technology will work for you the night before.** If your printer has no ink, the website wouldn't load, or your computer crashed at midnight, the due date does not change.

2. Do the assigned reading and associated assignments: The textbook is a resource and a necessity for you in passing this class and the AP test in May. Work that you complete is checking for your understanding. If you don't understand, **ASK QUESTIONS**! If you do not complete assignments, you will not be able to do this because you won't know what questions to ask. If you think you have no assignments, work ahead. You'll be doing that in a day or two anyway!
3. Take notes: As we go through topics in class, you will need to make addendums to the notes related to class discussions.
4. Use your resources: I post many valuable resources on Canvas…Use it!! You may also use me and other people in the class when you need help, but be aware that **all work turned in must be your own. Any evidence of sharing materials to be turned in will result in the grade of zero for all participants. Cheating and plagiarism may also result in the loss of credit for the course.**
5. Come to class: The number one reason that students do poorly in this class (aside from not turning in work) is lack of attendance. If you are not here, you will miss important discussions, labs and tests.
6. Review: After completing assignments, don't forget to go back and review what you have done. This is also a great time to review vocabulary. If there are any questions that arise, there is still time to ask before the test!
7. The Advanced Placement Exam: The date of the APES exam will be provided when it is released. There will be 80 multiple choice questions given in 90 minutes accounting for 60% of the score. There are 3 Free-response questions in 70 minutes accounting for 40% of the score.

Canvas: This year will be utilizing a Learning Management Platform called Canvas. Students will be using this tool in my class to complete some assignments online. They will have access to the course 24 hours a day. This will enable students who are absent to remain on pace.
Website: http://cabarrus.instructure.com/ (Link is also on the Central Cabarrus HS Homepage)
Log In Username ex. = flast4321@cabarrus.k12.nc.us
f = first letter of your first name

Quizizz: Quizizz is a free, self-paced learning tool that helps every student celebrate their achievements. It works on any device: web browser, iOS, Android and Chrome apps. Quizizz is incorporated into parts of the class's instruction, review, assessments, and homework. ***You must be signed into the correct class with the correct class link.***

Link: *https://quizizz.com/join?class=H406399*

If you DO NOT have an account:

1. Sign up with your school email
2. Click "as a student" and fill in the information.
3. Write down your username and password.
4. Make sure you accept the invitation!
5. Add a parent's/guardian's email so they can see your progress as well!

If you DO have an account:

1. Accept the invitation!
2. Add a parent's/guardian's email so they can see your progress as well!

Electronic device policy
The use of cell phones and personal electronic devices will not be permitted in classrooms. ***Students are expected to have devices turned off and put away in their cubbies for the entire duration of the class period***. If you are using your phone during class, it will be confiscated.

My Responsibilities
My job is to be your facilitator, so therefore, it is my responsibility to encourage and guide you to find information, form scientific opinions, and lead you to solutions to problems or tasks. If you are having trouble with a topic in the class, you can expect that I will make time to give you extra instruction; all you have to do is ask me. You can also expect me to have a positive attitude and enthusiasm for this class. It is my job to do my best to make the class as interesting as possible. I will also do my best to motivate you by any means necessary. My job also requires me to keep order in the classroom, therefore I will use any form of discipline I feel is necessary in order to maintain an environment of learning.

Student Responsibilities and Requirements
I want all of my students to understand that the teacher is only one part of the education process. I can teach, but if you are not motivated to learn, you won't. The student's responsibility is to learn. In addition to that, your grade is your responsibility. You will be held accountable to keep track of your own work and to turn in your work when it is due. If you are having problems with a particular subject, it is also your responsibility to come and see me personally for extra instruction. You are also responsible for your own behavior.

Materials
1. Each student will be required to keep a **single subject binder**. I highly recommend that you use a three-ring binder, **"2 inch"** and **start with at least 100 loose leaf paper**. I suggest **8-10 dividers** to divide each unit for organizational purposes. In this binder you will be required to keep all of your homework, notes, quizzes, and tests. You are required to have your binder with you in class everyday. You should only have work for this class in your notebook. It is important to keep a good notebook and take good notes.
2. A **composition notebook** will also be needed. This will be your *APES Lab Notebook*. Inside your notebook, you will keep your labs and it will be collected at the end of each lab session. You will also be completing your warm ups in your notebook. At the end of the semester, your *APES Lab Notebook* will be an excellent source of study materials.
3. **Pencils** are preferred for this class. You will be writing and erasing on labs, homework, and quizzes. If written in pen with many scribbles, it cannot be legible and thus receiving no credit.

Absences and Make-Up Work
Due to the nature of this class, it is recommended that you make EVERY attempt to be in class each day the class meets. If you are absent, it is your responsibility to get your make-up work for the days you were absent, not mine. If you are absent on a day when an assignment is due, the next time you are present you will be required to turn in the assignment at the beginning of the period in order to receive full credit. If you miss a test or a quiz, you will be required to take the test/quiz on the designated retake day. There will be some assignments that can't be made up; that is why it is in your best interest to be in class everyday. If you fail to turn in an assignment on its due date you may turn it in on the next class day for half credit.

Grading Policy and Procedure
There will be science projects, labs, classwork, both announced and unannounced quizzes weekly at minimum, and unit tests. All evaluations are based on a weighted category system: Test - 50%; Classwork - 10%; Quiz - 10%; Project - 10%; Warm-Ups - 10%; Lab - 10%. This will still give students that are not great test takers the opportunity to succeed.

Earning College/University Credit
Students are expected to take the AP Exam on Tuesday May 2, 2023. This test is the driving force for the curriculum taught throughout the year. Students will receive credit at their university/college of choice for a score of 3, 4, or 5 on the AP Environmental Exam. Score minimum and credit may vary based on college/university. Check the AP Credit Policy for your school for complete details.

Extra Assistance
Tutoring is offered *everyday* after school until 3:00 or unless otherwise stated in class. **Highly recommended**.

Submitting paperwork assignments:
At the top of the page, PRINT Upper Right Hand corner your first and last name, the date and class period. All work goes into the indicated basket on the front table, NOT dropped just anywhere on my desk.

Science Department Bathroom Policy:
Students will not be permitted to leave the room during the first and last 10 minutes of class for any reason. Students who need to leave the room will be provided 8 passes per quarter and must wear the appropriate pass while outside of the room.

Common Rules and Classroom Procedures:

- Be on time.
- Have materials ready when the bell rings.
- Follow directions on white board or TV Scre as soon as you enter.
- Bags belong under seats.
- Stay in your seat unless directed.
- Observe voice levels
- Stay clear of cupboards, behind the teacher's desk, computer, and demonstration table.
- Place paper work in the appropriate basket.
- Cooperate.
- Brings materials everyday.
- You are responsible for your own items.
- **Respect everyone and everything**.
- Raise your hand to ask or answer questions
- **No food or drink- SAFETY**
- **Cheating will not be tolerated**. (A zero and a discipline referral)

Consequences:

1. Warning
2. Parent contact
3. After school detention
4. Student –Teacher conference
5. Administrative referral
6. Parent–Teacher conference
7. Immediate removal of student from the classroom

Student behavior determines the appropriate consequences.
Consequences are not limited to the list above

Appointments
I may be contacted during after-school by phone at 704-260-6570, but I prefer by my email address cheyenne.pompei@cabarrus.k12.nc.us for immediate responses. Please allow at least one-day notice when planning a parent conference.

Course Schedule/Pacing Guide

This pacing guide is a tentative overview of the AP Environmental Science schedule. This is subject to change based on changes to the school's calendar and possibility of remote instruction.

Main Topic/ Timeline	Objective Topics
Week 1: Introduction to AP Science Practices	*Science and Sustainability: An Introduction to Environmental Science*
Weeks 2-3: Unit 1 - The Living World: Ecosystems	*A. Ecosystem Structure (Biological populations and communities; ecological niches; interactions among species; keystone species; species diversity and edge effects; major terrestrial and aquatic biomes)* *B. The Atmosphere (Composition; structure; weather and climate; atmospheric circulation and the Coriolis Effect; atmosphere–ocean interactions; ENSO)* *C. Energy Flow (Photosynthesis and cellular respiration; food webs and trophic levels; ecological pyramids)* *D. Natural Biogeochemical Cycles (Carbon, nitrogen, phosphorus, sulfur, water, conservation of matter)*
Weeks 3-4: Unit 2 - The Living World: Biodiversity	*A. Ecosystem Diversity (Biodiversity; natural selection; evolution; ecosystem services)* *B. Natural Ecosystem Change (Climate shifts; species movement; ecological succession)*
Weeks 4-5: Unit 3 - Populations	*A. Population Biology Concepts (Population ecology; carrying capacity; reproductive strategies; survivorship)* *B. Human Population* *1. Human population dynamics (Historical population sizes; distribution; fertility rates; growth rates and doubling times; demographic transition; age structure diagrams)* *2. Population size (Strategies for sustainability; case studies; national policies)* *3. Impacts of population growth (Hunger; disease; economic effects; resource use; habitat destruction)*
Week 6: Unit 4 - Earth Systems + Resources	*A. Earth Science Concepts (Geologic time scale; plate tectonics, earthquakes, volcanism; seasons; solar intensity and latitude)* *B. The Atmosphere (Composition; structure; weather and climate; atmospheric circulation and the Coriolis Effect; atmosphere–ocean interactions; ENSO)* *C. Soil and Soil Dynamics (Rock cycle; formation; composition; physical and chemical properties; main soil types; erosion and other soil problems; soil conservation)* *D. Mining (Mineral formation; extraction; global reserves; relevant laws and treaties)*
Week 7-8: Unit 5: Land + Water Use	*A. Agriculture* *1 . Feeding a growing population (Human nutritional requirements; types of agriculture; Green Revolution; genetic engineering and crop production; deforestation; irrigation; sustainable agriculture)* *2 . Controlling pests (Types of pesticides; costs and benefits of pesticide use; integrated pest management; relevant laws)*

	B. Forestry (Tree plantations; old growth forests; forest fires; forest management; national forests) *C. Global Water Resources and Use (Freshwater/saltwater; ocean circulation; agricultural, industrial, and domestic use; surface and groundwater issues; global problems; conservation)* *D. Rangelands (Overgrazing; deforestation; desertification; rangeland management; federal rangelands)* *E. Other Land Use* *1. Urban land development (Planned development; suburban sprawl; urbanization)* *2. Transportation infrastructure (Federal highway system; canals and channels; roadless areas; ecosystem impacts)* *3. Public and federal lands (Management; wilderness areas; national parks; wildlife refuges; forests; wetlands)* *4. Land conservation options (Preservation; remediation; mitigation; restoration)* *5. Sustainable land-use strategies* *F. Fishing (Fishing techniques; overfishing; aquaculture; relevant laws and treaties)* *G. Global Economics (Globalization; World Bank; Tragedy of the Commons; relevant laws and treaties)*
Weeks 8-9: Unit 6 - Energy and Resource Consumption	*A. Energy Concepts (Energy forms; power; units; conversions; Laws of Thermodynamics)* *B. Energy Consumption* *1. History (Industrial Revolution; exponential growth; energy crisis)* *2. Present global energy use* *3. Future energy needs* *C. Fossil Fuel Resources and Use (Formation of coal, oil, and natural gas; extraction/purification methods; world reserves and global demand; synfuels; environmental advantages/ disadvantages of sources)* *D. Nuclear Energy (Nuclear fission process; nuclear fuel; electricity production; nuclear reactor types; environmental advantages/disadvantages; safety issues; radiation and human health; radioactive wastes; nuclear fusion)* *E. Hydroelectric Power (Dams; flood control; salmon; silting; other impacts)* *F. Energy Conservation (Energy efficiency; CAFE standards; hybrid electric vehicles; mass transit)* *G. Renewable Energy (Solar energy; solar electricity; hydrogen fuel cells; biomass; wind energy; small-scale hydroelectric; ocean waves and tidal energy; geothermal; environmental advantages/disadvantages)*
Weeks 10-11: Unit 7 - Pollution: Aquatic, Atmospheric, Terrestrial	*A. Pollution Types* *1 . Air pollution (Sources — primary and secondary; major air pollutants; measurement units; smog; acid deposition — causes and effects; heat islands and temperature inversions; indoor air pollution; remediation and reduction strategies; Clean Air Act and other relevant laws)* *2 . Noise pollution (Sources; effects; control measures)* *3 . Water pollution (Types; sources, causes, and effects; cultural eutrophication; ground-*

	water pollution; maintaining water quality; water purification; sewage treatment/septic systems; Clean Water Act and other relevant laws). *4 . Solid waste (Types; disposal; reduction)* *B. Impacts on the Environment and Human Health* *1 . Hazards to human health (Environmental risk analysis; acute and chronic effects; dose response relationships; air pollutants; smoking and other risks)* *2 . Hazardous chemicals in the environment (Types of hazardous waste; treatment/disposal of hazardous waste; cleanup of contaminated sites; biomagnification; relevant laws)* *C. Economic Impacts (Cost-benefit analysis; externalities; marginal costs; sustainability)*
Weeks 12-13: Unit 8 - Global Change	*A. Stratospheric Ozone (Formation of stratospheric ozone; ultraviolet radiation; causes of ozone depletion; effects of ozone depletion; strategies for reducing ozone depletion; relevant laws and treaties)* *B. Global Warming (Greenhouse gases and the greenhouse effect; impacts and consequences of global warming; reducing climate change; relevant laws and treaties)* *C. Loss of Biodiversity* *1 . Habitat loss; overuse; pollution; introduced species;* *endangered and extinct species* *2 . Maintenance through conservation* *3 . Relevant laws and treaties*

Please turn this document into Ms. Pompei once you have completed the following information.

Date _____

I have read the classroom syllabus and understand the expectations in this classroom.

Student name _____ Student Signature _____

Parent/Guardian name _____ Parent/Guardian Signature _____

I have read the lab safety contract and understand the expectations set forth by Cabarrus County Schools.

Student name _____ Student Signature _____

Parent/Guardian name _____ Parent/Guardian Signature _____

I have read the student information sheet and filled out the information sheet.

Student name _____ Student Signature _____

Parent/Guardian name _____ Parent/Guardian Signature _____