AP Environmental Science Syllabus

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Required Textbook/Materials:

The textbook used in this course is *Living in the Environment, 18th Edition* (2018), by G. Tyler Miller and Scott Spoolman. Additional readings, including books and articles from professional scientific publications, will be distributed in class.

Dual Credit:

Successful completion of this course (C grade or better) earns dual credit **(8.0 Cr.)** at Portland Community College.
Courses: ESR171: Environmental Science: Biological Perspectives (4 credits), Fall registration.
ESR172: Environmental Science: Chemical Perspectives (4 credits), Spring registration.
Course Descriptions/ Syllabus:
ESR 171 (1st semester)
ESR 172 (2nd semester)

Required Materials:

- Chromebook or other computer
- Spiral notebook for note-taking and lab work
- Planner, pens, pencils, calculator

Course Description:

The environment is the world we live in, and increasingly, the global human population affects our environment through our activities and choices. How you choose to live in your environment will be critical to what kind of future you live in. The goal of this course is to give you the information and tools to make informed decisions and to be knowledgeable and active members of your community and larger society.
The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. We will explore environmental science issues surrounding humans and their activities. Lectures, films, reading materials, class discussions, in-class activities and field trips will be used for this purpose. Planned lecture topics, labs and events are listed on the attached Course Outline.
The AP website can be found at https://apstudent.collegeboard.org/apcourse/ap-environmental-science.

Course Components/ Major Assignments:

READINGS/ CHAPTER QUESTIONS: The first step to doing well in this class is to keep up with assigned readings. In addition to the textbook, supplemental readings will be assigned from time to time. Chapter questions will be assigned across two chapters.

TESTS: There will be a test on each unit. Tests will follow the format of the AP Exam: 60% of the score will be based on multiple choice questions, and 40% on free-response questions. There will be periodic quizzes during the course of each unit.

LABS: There will be labs during the course of the year. All labs will require some sort of written analysis of questions. In addition, you will be responsible each semester for completing at least one in-depth inquiry lab report.
Missed labs can be made up for up to **one week** after the original lab date.

FIELD TRIPS:

Field trips are an essential part of the APES experience! Field trips during the course of the year will be designed to give you hands-on and in-person exposure to topics covered in class, including field sampling techniques, water quality testing, farming practices and wastewater treatment. Participation on field trips is required. If you are unable to attend a field trip, an alternate assignment will be provided to make up the credit.

BOOK REVIEW

Each student will be responsible for reading and reviewing a book on a topic relating to environmental science during the course of the first semester. Many book options are available in the Environmental Science library in class. Other books may be obtained through the school library, city library, or bookstores.

AP EXAM

The AP Exam is not required, but if you take it you may qualify for additional college credit. **The AP Exam is on Tuesday, May 13th at 12:00 pm**. A score of 3, 4 or 5 on the AP Exam will count towards college credit.

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SERVICE LEARNING PROJECT:
During the course of the year, the class will develop a service learning project relating to the local environment. The majority of work on the project will be conducted in May and June, after the AP exam.

Grading System

Grades will be reported using a traditional A – F grading system, as follows:

A 90 – 100% **B** 80 – 89% **C** 70 – 79% **D** 60 – 69% **F** < 60%

Formative Assessments: Classwork/ Homework (30%): Includes daily assignments, labs, projects
Mastery Assessments: Tests/Quizzes/Finals (70%): includes quizzes, unit tests, lab reports, and Final Exam.

Late Work Policy:

Turning work in on time is highly recommended and is in your best interest. Late work will be accepted up to the end of the unit. If you want to retake a failed test, any late work for the unit must be completed first. Any late work is subject to a point reduction of up to 50% of the grade. It is understood that there may be a wide variety of reasons for work being late. All reasonable excuses will be exempt from loss of points.

Class Expectations:

Having and fostering a classroom environment that is conducive to participation, discussion, and learning is all of our responsibility. To that end, please:
- Be present, and be on time to class. Being "present" means engaging with the material and your classmates by sharing your ideas and opinions, asking and answering questions, and participating in discussions.

Cell Phones: CELL PHONES AND OTHER ELECTRONIC DEVICES, INCLUDING HEADPHONES AND AIRPODS, are NOT ALLOWED during class. They must be stored somewhere out of sight, such as a backpack, purse, or pocket, NOT OUT ON THE DESK.

Course Calendar (subject to revision!)**:**

Unit	Topics	Labs/ Activities/ Projects
What is Environmental Science?	Introduction to environmental science Ecosystem sampling	Peanut observation Pill Bug Lab
Ecosystems and ecological principles	Food chains, trophic pyramids, food webs Nutrient cycling Succession, Biomes Local flora & fauna Freshwater Ecosystems Aquatic communities & water quality	Soil Ecology Lab Owl pellets lab Plant community lab Ecosystems Inquiry lab *Salmon Watch field trip
Biodiversity and Population	Biodiversity Ecosystem services Human Population Growth Population ecology	Island Biogeography Demo Ecosystem services bracket Fish banks Activity
Land use and agricultural practices, Toxicology and Risk assessment	Land Resources Agricultural Methods/ pesticides Risk assessment & toxicology Environmental Laws	LD-50 Lab Mining Lab Begin planting experiment *Zenger Farm field trip
Water resources, pollution and treatment	Water resources & wastewater treatment Hydrologic Cycle & Water Pollution	Water quality lab Bottled water lab *Sewage treatment plant field trip
Global warming and Climate Change	Composition of the atmosphere Air pollution Global warming & Climate Change	Airborne particulates lab Acid rain lab Lichen air quality lab Global warming data lab
Pollution and Solid Waste	Pollution, Solid & Hazardous waste Plastics & recycling	Plastics lab Solid waste inventory
Energy resources and consumption	Energy concepts Energy sources Fossil fuels vs. Renewables	Energy content of fuels lab Biodiesel Lab Wind Turbine Inquiry Lab *Bull Run field trip