

Advanced Placement Environmental Science

Mr. M. Lopatka
September 2009

General Learning Goals:

- **C**ritical thinkers
- **A**cademic achievers
- **R**esponsible citizens
- **E**ffective communicators

1. COURSE DESCRIPTION

The A.P. Environmental Science course is designed to be the equivalent of a one-semester introductory college course in environmental science. A. P. Environmental Science covers a wide variety of disciplines, including biology, geology, environmental science, chemistry and geography. Emphasis is placed upon scientific principles and analysis, and includes a laboratory component. There is a strong laboratory requirement that follows and reinforces course concepts. 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. Environmental Science is interdisciplinary; it embraces a wide variety of topics from different areas of study.

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. Environmental Science is interdisciplinary; it embraces a wide variety of topics from different areas of study, yet there are several major unifying themes that cut across the many topics included in the study of environmental science.

2. WHAT THE STUDENT NEEDS TO DO TO BE SUCCESSFUL

- Do the assigned reading: the textbook is an invaluable resource, so to force you to read it, there will be a reading quiz every few days. This is a college level text and can be difficult to read so it is better to keep up with the reading. **IF YOU RECEIVE LESS THAN 80% ON THE READING QUIZ YOU WILL ASSIGNED EXTRA HOMEWORK IN THE FORM OF QUESTIONS FROM THE BOOK.**
- Do your homework: These are questions in response to online articles, videos and practice FRQs.
- Take notes: You will download and print skeleton notes from my website and fill them in during lecture.
- Use your resources: I have a website at www.apessealy.com. Here you will find the notes for all the chapters, homework, review information and copies of the laboratory handouts. If you do not have computer access at home, it is available in the library.
- Come to class: The number one reason that students do poorly in this class is lack of attendance. If you are not here you will miss important discussions, labs and tests. If you are truant you will not be allowed to make these things up.
- Refrain from cheating: You may think it is helping you get ahead, but it is hurting your chances of passing the AP

3. SYLLABUS

UNIT	TOPIC	CHAPTERS	DURATION
1	Introduction and History of Environmental Science An Overview of environmental challenges and problems	1,2	2 wks
2	Scientific Systems, Matter and Energy	3	1.5 wk
3	Geology Hazards and Soils	10	1.5 wks
4	Ecosystems and Evolution	4,5	2.5 wks
5	Biogeography and Aquatic Ecology	6,7	1.5 wks
6	Community Ecology, Fire Ecology and Population Dynamics	8,9	2 wks
7	Sustaining Biodiversity	22,23	2 wk
8	Human Population	11,25	2 wks
End of First Semester			
9	Energy Resources	14,15	2wks
10	Toxicology and Risk Assessment	16	1wk
11	Air and Air Pollution	17	1.5
12	Climate Change and Ozone Loss	18	2 wks
13	Water Pollution	19	2 wks
14	Pesticides and Pest Control	20	1 wks
15	Solid and Hazardous Waste	21	1 wks
16	Sustainable Cities	25	1 wk
17	AP Test Review		1.5 wks
AP Exam			
18	APES Service Project	28	1wks

4. THE TEXT: Living In The Environment, 12th edition, G. Tyler Miller, Jr., Copyright 1998, Wadsworth Publishing

5. THE EXAM: TUESDAY, MAY 11th, 2010

The A.P. Environmental Science Exam created by the College Board and Educational Testing Service, will be administered on May 11th, 2010. This exam is three hours in length and consists of two parts: a multiple-choice section comprised of 100 questions and forming 60% of the grade, and a free response section comprised of four free-response questions and forming 40% of the grade. The multiple choice section is designed to cover the breadth of your knowledge and understanding of environmental science and includes thought provoking problems and questions based on fundamental ideas from environmental science as well as questions based on the recall of basic facts and major concepts. The free-response section emphasizes the application of principles in greater depth; you will need to organize answers to broad questions, demonstrating reasoning and analytical skills, as well as the ability to synthesize material from several sources into a coherent essay.

6. LABORATORY and FIELD INVESTIGATIONS

Laboratory and field investigations are designed to complement the lecture portion of the course by providing opportunities to learn about the environment through firsthand observations, to test concepts and principles which have been introduced in class, to explore specific issues and problems in greater depth, and to gain an awareness of the importance of confounding variables which exist in the real world. Investigations will be diverse and will include indoor laboratory activities, outdoor activities, as well as field experience outside the confines of the campus. The labs are designed to invite students to think critically, to observe environmental systems, to develop and conduct well designed experiments, to utilize appropriate techniques and instrumentation, to analyze and interpret data, to present data orally and in the form of statistical and graphical presentations, to apply concepts to the solution of environmental problems, to form conclusions and to propose further study.

7. EXPECTATIONS

As a student in this advanced course of study you are expected to be polite to and courteous to those around you; be prepared for class everyday; be prompt because the school tardy policy requires that you be dropped from class after just five tardies; to keep your textbook covered for future generations. There is no food, gum or drinks allowed in the classroom. Lastly, to be successful in this course your attendance is very important; it will be very difficult for you make-up laboratory and field activities.

8. GRADING

Students will be evaluated through performance on chapter exams, announced quizzes on the reading assigned as homework, laboratory investigations and lab reports, homework, group projects, and writing assignments. In addition to these assignments each student will conduct an environmental science research project. Exams and quizzes will comprise 55 % of the total points, Labs 30%, Homework 10%, Notes 5%. Letter grades will be determined by the traditional scale of 100-90=A, 89-80=B, 79-70=C, 69-60=D and 59 and below is an F. Late work will be accepted for up to one week after the due date, but will only receive half credit. If there is a verified absence the work will be due on the day of return unless prior arrangements have been made. It is the responsibility of the student to get all make-up work upon return.

9. HOW TO CONTACT Mr. Lopatka (Parent/teacher communication)

I can now be reached several ways:

- To speak with me directly, call 407-835-4900 x4293 voice mail. Please do not call my classroom directly during school hours as I will be unable to speak with you at that time. I will be available only after 2:30.
- **The easiest way to stay in contact with me is through e-mail.** My address is lopatkm@ocs.net
- My website is at www.ehsscience.com

Tear or cut here-----

Contract

I have read, understand, and agree to the above syllabus and AP Environmental Science website, www.ehsscience.com

Printed Student Name _____ Period _____

Student Signature _____

Parent Signature _____

Student e-mail Address _____

Parent e-mail Address _____