Biology 111
Environmental Science
Fall 2011
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"Humankind has not woven the web of life. We are but one thread within it. Whatever we do to the web, we do to ourselves. All things are bound together. All things connect." ~Chief Seattle, 1855

Environmental Science is an interdisciplinary study combining thoughts from many areas including biology, chemistry, geology, economics, politics, ethics, etc. It is a study of how the earth works, how we affect the earth's life-support systems, and how we deal with environmental problems. In this course students begin with a study of natural ecological systems and principles in order to understand the interconnected complex workings of our world. Students then apply these ecological principles to local and global environmental problems as we study the human impact on the biosphere. Students will be confronted by new thoughts and ideas as we wrestle with various environmental issues and hopefully learn how to live more sustainably on this earth.

According to one environmental educator, the goals of environmental education are illustrated in several basic questions:

-What do I know about the place where I live?
-How am I connected to the earth and other living things?
- What is my responsibility as a human being?

We will explore these and other questions in both lecture and lab this semester.

Text: *Environmental Science, Earth as a Living Planet*, Botkin and Keller, 7th edition

Learnlink Class Conference: Be sure to add the icon to your desktop and check our conference regularly. I usually send an update on the readings and topics for the next week's lecture sometime on Friday.

Blackboard Website: Bio 111 also has a blackboard site that will be helpful to you for lecture, lab and research resources. You might even see yourself ☺ I'll let you know when it is available for use. From Oxford's home page type in: classes.emory.edu (Hint: do not type the www) Login with your opus user ID and password.

Lecture: Pierce 101, 10:00 a.m. - Tuesday/Thursday
Laboratory: Lab meets 2:30-5:30 Thursday afternoons in Pierce 101.

Proposed Lecture Schedule

Date	Topic	Chapter/Section
Aug. 25	Observations of the natural world	Hearn Nature Trail
30	Key themes of Environmental Science	Chapter 1
Sept. 1	Science as a way of Knowing	Lab Handout/6

	6	Ecosystems: Interactions and Connections	6
	8	Energy: Gotta have it!	9
	13	Nutrient Cycles	5
	15	Nitrogen, Carbon, Water, Phosphates	
	20	Human Population Dynamics	4
	22	**Test I (Includes lecture and laboratory material.)**	
	27	Population Growth Rates and Predictions	4
	29	Just food for a hungry world	11
Oct.	4	Environmental Impacts of feeding the billions	12
	6	Water Resources	21
	11	**Fall Break**	
	13	Water: The Human Impact	21
	18	The Chattahoochee: Typical Urban River Issues	22
	20	Everybody lives downstream of somebody	22
	25	Air Quality	24
	27	**Test II (Includes lecture and laboratory material.)**	
Nov.	1	Secondary Pollutants	24
	3	Global Climate Change: The Evidence	23
	8	Ozone Thinning	23
	10	Air Quality Solutions	
	15	Power: Today's Issues	18
	17	Energy: Choices for the future	19
	22	**TEST III (Includes lecture and laboratory material.)**	
	24	**Thanksgiving Holidays**	
	29	What is a species? How did they evolve?	
	Dec.1	Biodiversity: Threats, Protection and Policies	14
	6	Biodiversity: Conservation and Restoration	

FINAL EXAM – Friday, Dec. 9, 2011- 2:00-5:00 (Test 4 and Cumulative Section)

Laboratory Goals: One of the goals of environmental education is to provide opportunities for students to get to know the "place" where they live and make

connections to the natural world so that they can better understand the human impact on these natural settings and make more informed decisions about the world in which we live. During the laboratory portion of the class students will explore various ecosystems of our ecoregion, the piedmont of GA. In addition, students will have the opportunity to learn sampling and other techniques used by ecologists in the field.

Lab meets 2:30-5:30 Thursday afternoons in Pierce 101. There is no lab manual; handouts will be given for various labs and also be made available on the blackboard site.

Proposed Lab Schedule

Sept.	1	Scientific Investigation – Science as a Way of Knowing
	8	Terrestrial Investigation – Oxhouse Science Center
	15	Rock Outcrop – Davison Arabia Mt. – Dekalb County
	22	How Wet is that Area?
	29	Wetland Investigation – GWF property
Oct.	6	TBA
	13	Stream Assessment: Data collection
	20	Stream Assessment: Sorting, results and conclusions
	27	Stream Protection: Water Reclamation
Nov.	3	Logging Case Study: Timberrrrr!
	10	Logging Case Study: Data, Results & Discussion
	17	Invasives, Exotics and Other Aliens
	27	**Thanksgiving Break**
Dec.	1	Just how Smart is our Growth?

Lab schedule is subject to change based on any number of uncontrollable factors (the blooming of flowers, trees dropping their leaves, hurricane rains, etc.)

Lab/Writing Assignments: Students will be submitting various types of writing including lab reports, critiques, position papers, etc.

Evaluation:

Tests	300 points
Lab/Writing Assignments (class and lab)	75-100 points
Class Participation (lecture and lab)	15 points
Final Exam	about 150 points
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*Total Points	525-550 points

*Total points may vary based on possible changes in certain assignments over the semester. Grades are assigned on a plus-minus scale.

Office Hours: By appointment (4-8395) OR you can always just come look for me but remember I might be working in the labs or out in the greenhouse.
HONOR CODE: The Honor Code of Oxford College applies to all work submitted for credit in this course. All such work will be pledged to be yours and yours alone. This is the case when you place your name on any work (tests, writing assignments, lab reports, research papers, etc.) submitted. There will be times when you may work in a group to collect data but the writing assignments will be on your own after that point. If you have any questions about how the honor code applies to any tests or assignments please ask me!!!

Absences: The absence policy is outlined in a separate handout. Unexcused absences or a failure to follow the procedures outlined in that handout will result in a reduction of your grade. Penalties are stiff so pay close attention to the handout. Additionally, tardiness is rude to other students and to the professor and will result in a decreased grade.

Cell Phones: They must be turned off if brought into class or lab. They take your attention away from the class and are an unnecessary distraction in the class, field and vans. Cell phone etiquette requires one to step away from others when talking on the phone so that you respect their time and space. Phones must be left at the front of the classroom in your book-bag during tests.

Tips for being successful in this class:
Be prepared for class: Read assignments before coming to class so that the material will sound familiar to you as we go over it in class and you can make significant contributions to class discussions.
Be prepared in class: Bring textbook to class as we will refer to diagrams and material in the text during class time.
Take good class notes: Handouts and other supplemental materials will be given to you on occasion in class but a set of good class notes is imperative for mastering the material.
After class: Go back over your notes. If you have "holes" in your notes, get the missed material from another student in the class or see me during my office hours. Do not wait until the test to fill in these gaps.
Preparing for tests: Remember the tests will include material from lecture and lab so take good notes in both. Handouts and lab materials will be included on the test material so refer to materials on the class Blackboard site. Don't wait until the last minute to begin preparing for the tests. If you do poorly on a test come to see me so that you can go over the key and figure out where your mistakes were.
Again, a good set of class notes is key to performing well on tests in this class since powerpoint presentations are usually more pictures than text.