Biology 111
Environmental Science
Fall 2010
T.R. Wade

"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 interconnected, 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 (the environment), and how we deal with environmental problems. This semester we will be using a new textbook, *Plan B 4.0* written by Lester R. Brown, president of Earth Policy Institute, a research organization based in Washington, DC. See the supporting materials at the website for the book http://www.earthpolicy.org/ In this course students will be exposed to a number of environmental issues such as energy, climate change, falling water tables, air quality, soil erosion, desertification, population growth, and feeding the world. Students will be confronted by new thoughts and ideas as we wrestle with various environmental issues from all sides of the problem 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 lab and lecture this semester.

Text: *Plan B 4.0 Mobilizing to Save Civilization by* Lester R. Brown
And view the website for updates and further information at
http://www.earthpolicy.org/

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 weeks' 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 Login with your OPUS user ID and password.

Lecture: Pierce 101, 10:00-11:15a.m. - Tuesday/Thursday

Proposed Lecture Schedule

Date	Topic	Readings
Aug. 26	Environmental Issue from all sides	No Lab this day
31	Tragedy of the Commons	(article by G. Hardin)
	Environmental Problems: Causes, Solutions and Sustainability	
2	Selling our future: Food and Food politics	Chapt. 1
7	The economy and Failing States	
9	Components of Plan B	
14	Population Pressure: Land and Water	Chapt.2
16	Land and Water Conflicts- Environmental Refugees	
21	Climate Change and the Energy Transition	Chapt. 3
23	**Test I (Includes lecture and laboratory material.)**	
Oct.5	Decline of Oil and Coal- A challenge without Precedent	
7	Stabilizing Climate: An Energy Efficiency Revolution	Chapt. 4
12	**Fall Break**	
14	A New Materials Economy-The Energy Savings Potential	
19	Stabilizing Climate: Renewable Energy	Chapt. 5
21	**Test II (Includes lecture and laboratory material.)**	
26	Plant based Energy-World Energy Economy of 2020	
28	Cities for People	Chapt. 6
Nov.2	Cities for People	
3	**Mandy Schmidt Mahoney-Climate Change Initiatives in Major Metro Cities Wednesday night-Oxford Studies Event, 7:00p.m. Tarbutton**	
Mandatory for all students in Bio 111 Class so put it on your calendar!		
4	Eradicating Poverty	Chapt. 7
9	Stabilizing Population- end of chapter	
11	Restoring the Earth	Chapt. 8
16	Regenerating Fisheries – end of chapter	
18	**TEST III (Includes lecture and laboratory material.)**	

23	Feeding 8 billion People Well	Chapt. 9
25	**Thanksgiving….enjoy the outside ☺**	
30	Localization of Agriculture- end of chapter	
Dec. 2	Can we mobilize fast enough?	Chapt. 10
7	What you and I can do!	

FINAL EXAM – Thursday Dec 9, 2-5:00pm (Test 4 and Cumulative Section)

Environmental Science Laboratory

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 region, the piedmont ecoregion 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.

Fall 2010 Proposed Lab Schedule

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

Aug.	26	No Lab…first day of class….take a break and enjoy the out-of-doors
Sept.	2	Science as a Way of Knowing: Scientific Investigation
	9	Terrestrial Investigation: Oxhouse Science Center
	16	Rock Outcrop – Davison Arabia Mt. – DeKalb County
	23	Stream Study: Data collection
	30	TBA
Oct.	7	Stream Study: Sorting, results and conclusions
	14	World Food Day
	21	Introduction to Wetlands
	28	Wetland Investigation
Nov.	4	Just how Smart is our Growth?
	11	Logging case study: Introduction and Methods
	18	Logging Case Study: Data, Results & Discussion
	25	**Thanksgiving Break**
Dec.	2	Water Reclamation

Writing Assignments (Class & Lab): Students will be submitting various types of writing assignments for both lecture and lab such as lab reports, inquiry questions for each chapter of the text, reflections and others.

Class Participation: Your participation in class discussions is imperative. We are learning together this semester and you are expected to have read ahead, made a list of questions, bring your text to class and be prepared each day to actively engage the material. I think we are going to really enjoy this text. There will be various short assignments for each chapter of the text that are designed to help you read closely and tie material to the major themes of the course.
This is a subjective 15 points which will depend on your ability to demonstrate your participation and your presence in class/lab each day.

Evaluation:

Tests	300 points
Writing Assignments (Class & Lab)	75-100 points
Class Participation (Lecture & 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. Check with Ms. Budensiek before you give up and leave Pierce.

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 policy. 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. It is rude to talk on the phone while in the presence of others in class, in lab or in the vans so please refrain from doing so. They must be left at the front of the classroom in your book-bag during tests.