Biology 111
Environmental Science
Fall 2005
T.R. Wade

"A mind, once stretched by a new idea, never regains its original dimensions."
Oliver Wendell Holmes

Environmental Science is an interdisciplinary study combining thoughts from many areas including biology, chemistry, geology, economics, politics, ethics, etc. According to G. Tyler Miller, Jr., the author of your textbook, it is a study of how the earth works, how we affect the earth's life-support systems (environment), 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 four basic questions:

-Where do the things I consume come from?
-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?

Text: Environmental Science, Miller, 10th 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 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. You will use your opus user id and password to log on.
Lecture: Pierce 101, 10:00 a.m. - Tuesday/Thursday

Proposed Lecture Schedule

Date		Topic	Chapter
Sept	1	Science as a way of Knowing: Scientific Method (Introduction, 3-1, 3-5, 3-7 & 3-8)	3
	6	Environmental Science/ Tragedy of the Commons	1/2
	8	What's up with the weather?	6
	13	Life Zones and Ecosystems	6/4
	15	Energy: Gotta have it!	3-7, 3-8, 4
	20	Sustainability, Natural capital, Ecosystem Services	1/4
	22	Human Population Dynamics	11

	27	Population Growth Rates and Predictions	11
	29	**Test I (Includes lecture and laboratory material.)**	
Oct.	4	What is a species? How did they evolve?	5
	6	Evidence for Evolution	5
	11	**Fall Break**	
	13	Biodiversity: Threats	5/18
	18	Biodiversity: Protection and Policies	17/18
	20	Biodiversity: Conservation and Restoration	17/18
	25	Water Resources	14
	27	**Test II (Includes lecture and laboratory material.)**	
Nov.	1	Water: The Human Impact	14
	3	Water Pollution	14
	8	Air Quality	12
	10	Global Climate Change/Ozone Thinning	13
	15	Solutions to Air Quality Issues	12/13
	17	Food Supply: Resources and Availability	16
	22	**TEST III (Includes lecture and laboratory material.)**	
	24	**Thanksgiving Holidays**	**No Lab**
	29	Food Supply: Agricultural Impact	16
Dec.	1	Power: Today's Issues	19
	6	Energy: Choices for the future	20
	8	Waste: Throw it Where?	15
	13	NIMBY, NIABY and NOPE	15

FINAL EXAM – Thurs., Dec. 15, 2005 - 2:00-5:00 (Test 4 and Cumulative Section)

Laboratory: Lab meets 2:30-5:30 Thursday afternoons in Pierce 101. There is no Lab Manual, handouts will be given for various labs.

Proposed Lab Schedule

Sept.	1	First Week – no lab
	8	Our Place- The Piedmont of GA
	15	Scientific Investigation - EXCEL
	22	Terrestrial Investigation – Oxhouse Science Center
	29	Rock Outcrop – Davison Arabia Mt. – Dekalb County
Oct.	6	Outcrop Investigation
	13	Stream Study: Data collection
	20	Stream Study: Sorting, results and conclusions
	27	Waste Water Treatment Plant
Nov.	3	Introduction to Wetlands
	10	Wetland Investigation
	17	Logging Case Study: Methods
	24	Thanksgiving Break
Dec.	1	Logging Case Study: Data, Results & Discussion
	8	TBA

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

Sophomore Writing : Biology 111, Environmental Science is a Writing Intensive course and counts as sophomore writing only if you have completed 30hrs. at Oxford College before you enroll in the class. Other regulations apply to transfer students (see p. 9 of the 2005-2006 Oxford Catalog). Students must complete the course with a C or better (not a C- or lower) to receive their writing credit.

Writing Assignments: Students will be submitting various types of writing including lab reports, critiques, position papers, etc. in addition to one major paper. Note below that writing assignments will account for about one forth of the final grade. Topics for the major paper include the following major environmental issues:

Biodiversity :Threats and Issues Chpts. 17 and 18
Air Quality Chpts. 12 and 13
Water Availability and Quality Chpt. 14
Waste Production Chpt. 15
Food Supply Problems Chpt. 16
Energy Needs Chpts. 19 and 20

Only 3 students will be allowed to choose any one of the topics so get your choices to me soon. As we cover each of the topics in class, students groups will be asked to prepare a 10-15 min. presentation of the readings and research they have used in writing their papers. This will be an 8-10 page paper (no more than 10 pages please ☺) double spaced and font size 12. At least 5 sources will be cited in your paper, one of which will be a primary scientific article from a scientific journal. More details will be given on this assignment later in the course. To choose your topic you might want to begin by scanning the chapter references listed above.

Evaluation:

Tests	300 points
Writing Assignments	150 points
Final Exam	150 points
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*Total Points	600 points

*Total points may vary based on possible changes in certain assignments over the semester but the test will count for half the final grade and the exam and writing assignments will each count for a forth of the final grade. Grades are assigned on a plus-minus scale.

Office Hours: Wed./Fri. 9:00 a.m. – 11:30 a.m. or by appointment (4-8395) OR you can always just come look for me but remember I might be scurrying around 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!!!