

**Biology 111**  
**Environmental Science**  
**Spring 2009**  
**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 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?

**Text:** Environmental Science, Miller, 12<sup>th</sup> 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. 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

**Proposed Lecture Schedule**

Date	Topic	Readings
Jan.15	What's your Ecological Footprint?	No Lab this day
20	Tragedy of the Commons	(article by G. Hardin)
	Environmental Problems: Causes, Solutions and Sustainability Chpt.1	
22	Eco-economics	p.405-414
	Lab 1: Science as a Way of Knowing	p.23-28

27	Ecosystems: Interactions and Connections	Chpt.3
29	Energy: Gotta have it!	p. 33-35
Feb.3	Ecological Succession/ Secondary Succession	p.115-117
5	Nutrient Cycles	Chpt.3
10	<b>Test I (Includes lecture and laboratory material.)</b>	
12	Population Growth Rates and Predictions	p. 117-121
17	Human Population Dynamics and Controls	p. 124-137
19	What is a species and how did they evolve?	P.63-71
24	Evidence for Evolution	notes only
26	Evolution, Extinction, Speciation and Biodiversity	Chpt.4&9
March 3	Biodiversity: 8 Major Threats	9
5	<b>Test II (Includes lecture and laboratory material.)</b>	
10& 12	<b>SPRING BREAK</b>	
17	Biodiversity: Conservation and Restoration	p.105-114 & Chpt. 9
19	Biodiversity: Ecosystem Approach	parts of Chpt.8
24	Water Resources	11
26	Water Conservation	
31	Everybody lives downstream of somebody	
April 2	Water: The Human Impact	11
4	The Chattahoochee: a case in point	11
7	Air Quality: Primary Pollutants	15
9	<b>TEST III (Includes lecture and laboratory material.)</b>	
14	Secondary Pollutants: Acid Deposition	15
16	Global Climate Change	15
21	Ozone Thinning	15
April 20	is Earth Day 2009 <a href="http://www.earthday.net/">http://www.earthday.net/</a>	
23	Air Quality Solutions	
28	Energy: Choices for the future	13
<b>FINAL EXAM – Wed. May 6, 9-12:00pm (Test 4 and Cumulative Section)</b>		

**Laboratory:** Lab meets 2:30-5:30 Thursday afternoons in Pierce 101. There is no lab manual; handouts will be given for various labs. Check the blackboard site.

### **Spring 2009 Proposed Lab Schedule**

Jan.	22	Science as a Way of Knowing: Scientific Investigation
	29	Terrestrial Investigation: Oxhouse Science Center
Feb.	5	Investigation of local fauna
	12	Logging case study: Introduction and Methods
	19	Logging Case Study: Data, Results & Discussion
	26	Introduction to Wetlands-National Invasive Weed Awareness Week <a href="http://www.fws.gov/ficmnew/page4.html">http://www.fws.gov/ficmnew/page4.html</a>
March	5	Wetland Investigation
	12	<b>Spring Break</b>
	19	Wetland Mitigation/ Restoration: City of Covington
	26	Rock Outcrop – Davison Arabia Mt. – Dekalb County
April	2	TBA
	9	Stream Study: Data collection
	16	Stream Study: Sorting, results and conclusions
<b>April 20 Earth Day 2009</b> <a href="http://www.earthday.net/">http://www.earthday.net/</a>		
	23	Invasives in the Hearn Forest

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	75-100 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:** 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 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. They must be left at the front of the classroom in your book-bag during tests.