

Environmental Science (ENVA-100)**Fall 2008****Dr. Woolbright**

<u>Date:</u>	<u>Lecture Topic:</u>	<u>Reading:</u>
Tu 9/2	Introduction & scientific method	Chapter 1
Th 9/4	Ecosystems & energy flow	Chapter 2
Tu 9/9	Ecosystems – chemistry & nutrients	Chapter 3
Th 9/11	Ecosystems – metabolic processes, decomposition	
Tu 9/16	Populations and Succession	Chapter 4
Th 9/18	Selection and Evolution	Chapter
	*** Sat 9/20 – ES Fall Hike – Owl Head Lookout	
Tu 9/23	Human Populations	Chapter 5
Th 9/25	In-Class EXAM	Chpts 1-4
Tu 9/30	Population Problems	Chapter 6
Th 10/2	Soils and Soil Degradation	Chapter 8
Tu 10/7	The Hydrologic Cycle	Chapter 7
Th 10/9	Agriculture	Ch 9 & Readings
Tu 10/14	Biodiversity and its Protection	Chapter 10
Th 10/16	Conservation of Ecosystems	Ch 11 & Readings
Tu 10/21	Energy: Fossil Fuels	Chapter 12
Th 10/23	In-Class EXAM	Chpts 5-11
Tu 10/28	Energy: Nuclear Power	Chapter 13, cw
Th 10/30	Energy: Renewable Sources	Chapter 14, cw
Tu 11/4	Environmental Hazards	Chapter 15, cw
Th 11/6	Pollution and Pest Control	Chapter 16, cw
Tu 11/11	Water Pollution	Chapter 17, cw
Th 11/13	Solid Waste Disposal & Recovery	Chapter 18, cw
Tu 11/18	Chemical Hazards	Chapter 19, cw
Th 11/20	In-Class EXAM	Chpts 12-18
Tu 11/25	no class today	
Th 11/27	Thanksgiving	
Tu 12/2	Issues about the Atmosphere	Chapter 20
Th 12/4	Air Pollution	Chapter 21

*9/23-9/25
Alaska*

Textbook. *R.T. Wright. 2008. Environmental Science (10th Edition). Prentice Hall. Upper Saddle River, N.J.* This book is short, well-written, and easy to read. I expect you to read it carefully and learn the material in it. I will not lecture on all chapters or all sections within a chapter. Rather, I will use the lectures to explain complicated concepts or to put the material in context. You should take notes on each chapter before we get to it in class.

Attendance. Class meetings are very important. You should attend them all. For health or family emergencies, you may miss up to 2 classes without penalty. A 3rd and/or 4th absence will reduce your participation score by 50% each. More than 4 absences will result in a grade of U. I do not allow any absences from exams, labs, field trips, or classes when you are giving a presentation. These will result in a grade of F.

Class presentation. You will an oral report about something you did to try to reduce consumer waste (dates noted "cw" on the syllabus). It must be presented as an experiment, including hypothesis, results, and conclusion. Your score on this assignment will be based on originality and scientific merit, as well as style. You may give me your topic as soon as you wish. Once a topic is taken, another person cannot do the same thing.

Special events. A variety of interesting things occur during the semester that are related to this course, like special lectures or programs. Some of these are during the weekly ES pizza parties that are held after lab on Wednesdays. I will try to keep you up to date on these opportunities. For those that are particularly relevant, I will allow you to turn in a written summary of the program. For each summary that you turn in, I will add 2 points to your lowest test score. Note that you are always invited to the pizza parties. I will give you a list of those dates, with asterisks next to the ones that you can use for extra credit. Sorry, but you can't have extra credit just for showing up and eating pizza...

Evaluation. Your overall course grade (including lab work) will be calculated as follows:

3 in-class exams at 15% each	45%	lab practical	4%
cumulative final exam	10%	2 lab papers at 10%	20%
2 oral presentations at 4%	8%	data summaries, trip reports	
participation (subjective)	5%	and misc. assignments	8%
Total		100%	

Grading. Your grade will be calculated based on the percentage of the total possible points you achieve, using the weighting system shown above. In general, the person who just tries to memorize the "facts" from the textbook and does a mediocre job of the other assignments should expect to receive a grade of "D" (60-69%). The person who knows the "facts" and gains some grasp of the conceptual framework that organizes them, along with a basically solid job on the other assignments, should expect a grade of "C" (70-79%). To earn a "B" (80-89%), you should expect to learn very well the concepts and organization of the subject matter, be able to extrapolate to issues that we have not studied, and do all other assignments so well that there is no fundamental weakness in them. A grade of "A" (90-100%) is reserved for only those students who truly master the course material, as evidenced by intelligent discussions of concepts, building sound theoretical arguments and drawing solid conclusions, and combining the insights from all aspects of the course into assignments that truly appear professional. The plus is added

to a grade that is in the top 3 points of its range (except for the grade of A), and a minus is added to a grade that is in the bottom 3 points of its range.

Mandatory Pandemic Disclaimer. If the College closes because of pandemic flu or other emergency, you should take your textbook and other course materials home with you. If your situation permits, continue with readings and study of course materials to the best of your ability. As long as e-mail is available to us, I will communicate with you via e-mail as to availability of course materials and my expectations for your progress during the closure. I will attempt to maintain my normal office hours or will advise you of new office hours via e-mail. You may communicate any questions to me via e-mail. Laboratory is an integral component of this course that cannot continue if the College is closed. Thus we will be unable to complete the course entirely during a closure. There are likely to be other aspects of the course that cannot be completed during school closure. Ultimately, the nature and duration of the closure will determine how we proceed. One possibility is a mini-session or other special session that would occur following reopening of the school.

Office Hours. My office is in Morrell 106. The phone number there is 783-2451. My e-mail address is LWoolbright@Siena.edu. Unless otherwise announced in class, I will be available to meet with students during the hours listed below. If you cannot come during the times listed below, or if you need to schedule additional time to meet with me, send me e-mail so that we can schedule a meeting.

Monday	4:30 – 5:30
Tuesday	1:00 – 2:30
Wednesday	11:30-12:30
Thursday	4:00 – 5:30

Environmental Science Lab**Fall 2008****Dr. Woolbright**

<u>Date:</u>	<u>Topic:</u>	<u>Assignment:</u>
9/1 & 3	No lab (Wednesday lab replaced by fall hike)	
9/8 & 10	Plant identification; intro to communities/ecosystems	Practical on 9/22&24
9/15 & 17	Field trip – ASNY Rockwell Preserve <i>Policy Options Research</i>	Paper due 10/13 & 15
*** 9/20 (Saturday) - Adirondack fall hike. Owl Head Lookout ***	This is a required field trip that replaces a regularly scheduled lab.	Paper due 10/13 & 15
9/22 & 24	Field trip - The Albany Pine Bush (Practical exam on plant ID at beginning of lab)	Paper due 10/13 & 15
9/29 & 10/1	Field trip - Saratoga Spa State Park	Paper due 10/13 & 15
10/6 & 8	Measuring Ecological Communities <i>Policy Options Research</i>	Data & conclusions
10/13 & 15	Field trip – Farm	Oral report due 10/29
10/20 & 22	Soils (1 st paper due – Plant Communities) <i>Policy Options Research</i>	Data & conclusions
10/27 & 29	Chemical analysis – pH, N, P	Data & conclusions
11/3 & 5	Chemical analysis project	Paper due 11/25
11/10 & 12	Conclude projects	Paper due 11/25
11/17 & 19	Field trip - sewage treatment plant	Trip report due 12/1
11/24 & 26	No lab (Monday lab replaced by fall hike) (2 nd paper due in my office before you leave for break)	
12/1 & 3	Field trip - landfill	Trip report due 12/8
12/8	If needed: Rain date and/or review session	

Attendance policy. All labs are mandatory. There are no absences allowed. Note that field trips may run late. Do not schedule anything for the 4:30 time slot on field trip days.

Assignment Descriptions.

Practical Exams are tests on the material covered in lab. Typically you will move from station to station and at each station you will have a certain amount of time to look at the materials that are there and answer some kind of question about them.

The 1st Paper is on the ecological community field trips. It is a descriptive paper, not a scientific paper with data analysis in it. You should explain what communities and ecosystems are. Describe various factors that make some communities different from others. Use the communities that we visited in lab as examples and discuss the ways they differed from each other and the reasons for those differences. A good paper should show me that you know about community and ecosystem structure in general, and that you learned about the specific places we visited. Approximate length is 5 – 10 pages, printed double-spaced on laser or ink-jet printer.

An oral report is due on the farm field trip. This report will be given at the ES environmental pizza party at 5:00 on 10/29. The purpose is to explain to the other ES majors how local agriculture works. Take a camera with you and take pictures of the farm so you can put together a good power-point presentation. Discuss size of farm, crops produced and markets served, methods of dealing with soil fertility and pest reduction, how the farm qualifies as organic, and any other information you gathered about how the farm uses or conserves natural resources. This is a group project including the entire lab class. It is up to you to divide up the work, including making the presentation, so that everybody does their share. I will grade the presentation, and then modify each individual's grade based on the evaluations of each person's work that each of you will e-mail me after the presentation.

The 2nd Paper is on the chemical analysis project. This is a full scientific paper complete with abstract, introduction, methods, results, discussion, tables, figures, and literature citations. This paper is data-based and must include statistical data analysis. Approximate length is 3 – 7 pages, printed double-spaced on laser or ink-jet printer.

Data and conclusions are due for labs that do not require full papers. These are a copy of your data, appropriate statistical analysis, and a brief statement of your conclusions. These assignments are less formal and may be hand-written.

Trip reports are short (1-2 pages) hand-written reports about the field trips. They should include a description of what we saw, how it fits in with the course, and what you think about that particular environmental issue based on what you saw.

Evaluation. See lecture syllabus