WE 99

Pm

Biology 140 Environmental Studies

~~Spring 1999~~
Mon. and **Wed. Lecture:** 4:45-7:00 pm
Lab: 7:15-9:10pm

Dr. **Karen M. Petras**
Office Hours after lab and by appointment

Text: *Environmental Science; Working with the Earth.* **(1997) G. T. Miller, Jr. Wadsworth Publishing Co., 6th edition.**

The aim of this course is to increase understanding of the manner in which natural environmental processes work, and the ways in which human beings affect our planet. Readings will be based largely upon the textbook, but supplemental short articles may be **handed out in class. Class participation is encouraged and will count for 20% of your lecture grade. Many of the lecture topics will be controversial and a diversity of opinions are welcome. Two papers (5-10 pages each) will comprise the other 80% of your lecture grade.** The **first paper should focus on an environmental problem encountered here in Hawaii and can be researched in local newspapers, books, and television shows, etc. For the second paper, you will be asked to assess either your own household or workplace with respect to resource use. A brief (5-10 minute) oral presentation on each of your papers will be counted as part of your laboratory grade, and will enable us all to share what you have learned. More detailed guidelines for papers and presentations will be given at a later date.**

Our tentative lecture and lab schedules are listed below. Please allow some flexibility as to what will be happening when. For example, I would like to schedule at least one field trip, but as it needs to take place during a weekend day, I have to see how many people can attend on which dates. (We will only meet for one lecture on field trip week(s)). Further, sometimes unforeseen happenings with weather and equipment can throw a monkey wrench into things! I will not, however, tell you your paper is due **a week earlier then expected or anything like that.** I will **make every attempt to limit any negative impact an unexpected schedule change may have.**

Tentative	**Lecture Schedule**	**Reading**
1/11	**Overpopulation and Sustainable Resources**	**Ch. 1**
1/13	**Environmental Ethics - Past and Present**	**Ch. 2**
1/18	**Technology and Energy**	**Ch. 3**
1/20	**Ecosystem Dynamics**	Ch.4
1/25	**Ecosystem Dynamics** (cont.)	
1/27	**Ecosystem Types**	**Ch. 5**
2/1	**Human Populations**	**Ch. 6**
2/3	**Environmental Politics**	**Ch.** 7

2/8	Human Health **Paper I Due**	Ch. 8
2/10	Air Pollution	Ch. 9
2/15	**President's Day - No Class**	
2/17	Global Warming	Ch. 10
2/22	Water-Ecology and Economics	Ch. 11
2/24	Water-Part II	
311	Minerals and Soil	Ch. 1Z
3/3	Hazardous Waste	Ch. 13
3/8	Food Resources	Ch. 14
3/10	Pest Control	Ch. 15
3/15	Sustaining Ecosystems	Ch. 16
3/17	Sustaining Wild Species **Paper 2 Due**	Ch. 17
3/22	Renewable Energy	Ch. 18
3/24	Last Day of Class. Non-renewable Energy	Ch. 19

Laboratory Syllabus

The lab section of this class will be devoted to practical exercises that will reinforce and/or supplement the lecture material. Many of the labs require some sort of preparation, often a week or two in advance. For those labs requiring a lot of preparation, the accompanying lab exercise will be shorter to compensate. Your laboratory grade will be based on ten written reports (1-2 pages each) and two presentations of your papers. We will (hopefully) have two field trips, assuming logistics (and the weather!) cooperate. Further details on each lab will be available on a weekly basis.

Lab Grade Determination:

10 write-ups	**10 pts.** each	**100 pts.**
2 presentations	20 **pts.** each	40 pts.
Total		**140 pts.**

Tentative Lab Schedule

Labs with an asterisk* require some type of write-up. Information in bold type indicates preparatory Work for a later lab.

Lab #	Date	Topic
1	1/11	Introduction to lab, microscope use **Collect a water sample for lab 2**
2 *	1/13	What's living in the water? A microscope survey of your water samples. **Collect a soil sample for lab** 3
3*	1/18	What's in the dirt? Microsope survey of soil samples. **Save 24 hrs.' worth of garbage from your home. Bring to lab 4.**
4*	1/20	Trash lab:What can we reuse? What can be recycled? **Pick up worksheet for lab on environmental impacts in your neighborhood. Bring to lab 6.**
5	1/25	Video: "Remnants of Eden"
6*	1/27	Environmental impacts in your neighborhood
7+8	2/6	Manoa Valley Hike: Introduced and native species
9	2/8	Video: "Biodiversity"
10	2/10	Presentations of first papers **Set up your air pollution experiments at work or home. Bring results to lab 12**
11	2/15	President's Day- No Class or Lab
12*	2/17	Air pollution lab **Bring beach/park trash to next lab (13)** **Set jar some place outside to collect rainwater**
13*	2/22	More trash: collect trash from beach or park and bring to lab. We'll see what we've got and try to figure it out where it came from! **Make a list of resoures you commonly use at home and bring it** to lab 14
14*	2/24	Resources we commonly use: what are they, and where do they come from?
15*	3/1	Rainwater analysis

16	3/3	Video: To be announced
17 + 18	3/6	Makapu'u Tide Pool Walk
19*	3/8	Speciation: how are environment and evolution related?
20*	3/10	Diversity and Adaptation. Lab **and Lecture at Chamiinade Main** Campus
21	3/22	Presentations on 2nd papers
22	3/24	Presentations on 2nd papers (cont.) and teacher evaluations