

FD99
PM

Biology 110-People and Nature

Lecture: Tues., Thurs.: 11:10 a.m.-12:30p.m.

Instructor: Dr. Karen M. Petras

Text: *Environmental Science: Working with the Earth*, by G. Tyler Miller, Jr. 1999

Goal: To learn about the ecology of our planet and the ways in which human beings affect the Earth. I will emphasize examples from Hawaii throughout the semester since we've got an amazing "backyard" in this state and are ruining it at an alarming rate.

Grades will be based on: (1) two lecture exams (100 points each)

(2) a 5-10 page paper on an ecological issue relevant to Hawaii (100 pts.)

(3) and a final exam (100 pts.)

More detailed information on tests and exams will be provided at a later date. There will also be opportunities to earn 50 pts. extra credit by bringing in articles relevant to topics we cover in class. This may be important for those who are having an "off" day at exam time!

Announcements will be made at the beginning of each class when necessary, so please be on time. We have a lot of material to cover this semester, and lectures will be very important.

Attendance is going to be critical to doing well in this class, so make sure you're here! Also, please turn your cell phones and pagers off during lecture and lab.

Below is our tentative lecture schedule for the semester. As I have not taught this class before, I am not sure exactly how long it will take to cover each chapter, so I'm building in some flexibility. We will be reading a good portion of your textbook, but some chapters we will skim rather than read for detail. I will also be bringing in supplementary readings (generally just a page or two long) that pop up in the news, etc.

Tentative Lecture Schedule

Date	Topic/Reading
8/31	Chapter 1
9/2	Ch. 1 (cont.)
9/7	Ch. 2. biodiversity handouts
9/9	Ch. 3
9/14	Ch. 4
9/16	Ch. 4 (cont.)
9/21	Ch. 5
23	Ch. 5 (cont.)
28	Ch. 6. overpopulation handouts
	Discuss/review Chanters 1-6

10/5	Exam 1, Chapters 1-6
10/7	Ch. 7
10/12	Ch. 8
10/14	Ch. 9, frog handout
10/19	Ch. 10
10/21	Ch. 11
10/26	Ch. 12
10/28	Ch. 13
11/2	Discuss/ review Chapters 7-13
11/4	Exam 2, Chapters 7-13
11/9	Ch. 14
11/11	Veteran's Day-No Lecture
11/16	Ch. 15
11/18	Ch. 16
11/23	Ch. 17
11/25	Happy Thanksgiving! (no lecture)
11/30	Ch. 18
12/2	Ch. 19
12/7	Term Paper Due Finish up lecture material Ch. 14-19
12/9	Last lecture of the semester- review for final
12/15	Final Exam. 8 am-10am in lecture room. NOTE THIS IS A WEDNESDAY.

Biology 110L-People and Nature Laboratory

Time: Fridays, 1:50-4:50 pm.

Goal: To complement and expand upon ideas we cover in lecture. Lab will (hopefully) give you some good "hands on" experience in the world of scientific techniques, ecology, and observation. We won't have a specific lab manual for this class, but I will be providing handouts as needed. For two labs, we will do field trips for which you will need practical outdoor clothing and shoes.

Most of the labs require some sort of analysis or write-up. Each of these is worth 10 points. A brief (5-10 minute) oral presentation of your lecture term paper will be worth another 20 points. Note that I am making this presentation due before your papers! This is so that you won't be tempted to put off researching your papers until the last minute. A lab final worth 100 points will be given in the last week of class. If you folks keep up with your write-ups and are generally responsible, I'll make the lab final take-home (which generally means it's easier!).

Safety is very important in lab! Fortunately, we will not be working much with chemicals, but we will be working with glass instruments and slides a lot. We don't want anyone getting cut, and we are trying to increase lab safety in general So, this semester we will really be enforcing the rules! These include:

- 1. No eating or drinking in lab. If you need to grab a quick drink or snack, please do it in the hallway.**
- 2. Wear lab coats! These will be provided for you. They will prevent your clothes from getting stained, torn, or dirty and help protect you against cuts or scrapes.**
- 3. Wear close-toed shoes (sneakers are fine). Small slivers of broken glass can easily cut your feet if you are wearing sandals.**
- 4. We may, on occasion, need safety goggles.**

As with lecture, BE ON TIME and SHOW UP FOR LAB! If you miss a lab without an excuse, you will not have an opportunity to make it up AND you will get a zero for that lab. If you have an excused absence from lab, you won't get a zero for that lab. Instead, your lab grade will be based on fewer lab exercises.

The lab schedule below is tentative. Equipment and material doesn't always arrive on time, and for field trips the weather can be a problem. I will stick to this schedule as closely as I can and give you as much forewarning about changes as is possible. Note that there are items to bring to several of the labs. I will provide instructions on how to collect them later. Make sure to bring them, or you won't be able to do the lab.

Tentative Laboratory Schedule

Date	Topic
9/3	Intro to lab, microscopes

9/10	Scientific Method, planting seeds for herbicide lab
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Collect trash from beach/ other public space and bring to lab on 9/17!

9/17	Trash lab; what sorts of stuff accumulates where? How much can be recycled?
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9/24	Manoa Valley Hike: Invasive species/ Alien species video (Class will be split in half, One half will go for the hike on 9/24 while the other half stays back in class. On next lab, 10/1, we'll switch, so everyone ends up seeing the video and going on the hike)
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10/1 Manoa Valley Hike/ video

Bring a water sample (pond, puddle, stream, or ocean) to lab on 10/8!

10/8 Water analysis: organisms, pH, chemicals

Bring a small sample of soil to lab on 10/15!

10/15 Soil samples: looking for organisms, testing for pH and bacteria

10/22 Waikiki Aquarium: Ecology of Hawaiian Reefs, Human Impacts

Save your trash for 24 hrs. Bring to lab on 10/29

10/29 Trash lab #2: What do you use in 24 hrs? How much can be recycled?

11/5 Video:"Biodiversity"

11/12 Diversity lab: How are organisms adapted to their ecological niches?

11/19 Herbicide lab: how does herbicide influence symbiotic bacterial growth on legumes?

11/26 No lab-Happy Thanksgiving!

12/3 Oral presentations on term papers

12/9 Lab Final

I hope you will get a lot out of this class. If there were one class I think should be required in college, this is it!