

Conservation Biology Lab (ECOL 406L/506L)

aka GEOS 406L/506L, RNR 406L/506L

(24 August 2007, subject to change)

Introduction

Welcome to Conservation Biology Laboratory. This one-unit course is designed to introduce you to some of the issues, tools, and local areas relevant to conservation biology.

Instructor

Kevin E. Bonine, Ph.D., kebonine@u.arizona.edu

Office Hours in BSE 1D, 11am-noon Tues and noon-1pm Thurs, or by appointment.

Office phone: 626-0092, Home phone: 751-1349 (please call before 9pm or after 7am)

Teaching Assistant

Cathy Hulshof, hulshof@email.arizona.edu

Office hours: Mon and Wed 2-3, location TBA, and by appointment.

Meeting Times

Friday 1230-1530h. Scheduled to meet in KOFFL 410 but see syllabus for actual meeting location each week. Also see lab schedule for lengthened labs and multi-day trips.

Web Site

We will maintain a course website (follow http://eebweb.arizona.edu/eeb_course_websites.htm) with updated announcements, readings, etc.

406L Course Work

Attendance & Participation	(ten 'labs' with variable point values)	200 points
Short Written Assignments	(five of ten at 20 points each)	100 points
Total Points:		300

Graduate Student 506L Course Work

Same as 406L with the addition of:

Propose and create a well-developed lab for teaching conservation biology. You should choose a site and a subject that would be appropriate for use as an educational tool for this 406/506 lab.

Pretend you are creating a teaching lab experience for this class – hopefully it will get put to use in a future year. Your lab should consist of a relevant handout, references, and proposed itinerary (50 pts). 506L total points are, therefore, **350** points.

Course Work Details

The bulk of your grade (2/3) is designed to encourage you to participate in, and take advantage of, the many field trips we have planned. Make-ups are very difficult, as we are often meeting with experts in the field. See below for discussion of make-up work if this is an unavoidable option.

Short Writing Assignments (100 total points; 1/3 total grade)

Over the course of the semester, you will have ten potential writing assignments. Please complete and turn in **five** of these (20 points each) for us to grade. We will grade the first five that you turn in, with the caveat that **one of the five must come from a multi-day trip**. One third of the grade on the writing assignment will be based on your ability to write effectively in proper English. The other two-thirds will be based on content and your ability to demonstrate knowledge, understanding, and internalization of the material. **Assignments are limited to one piece of paper (you may use both sides if you wish) each and are due at the beginning of the next scheduled lab meeting.** You may be asked to read aloud to your peers and discuss and defend your point of view.

Attendance & Grading

You are expected to attend each lab ready to contribute, prepared to participate, and having read the appropriate material. If unavoidable, missing a three-hour lab, or one of the longer or multi-day labs can be made up under the following onerous conditions:

1. The instructors approve of the reason for the missed lab.
2. The student submit *within ten days* of the missed lab, a written report relevant to the location and the topic missed. Come talk to KEB about the assigned writing for a given missed lab **before you write**.

A maximum of 3.3 points of attendance can be made up per page of typewritten (double-spaced 10-12 point font, 1 inch margins) report. For example, if you miss the 07 Sept. trip to Sabino Canyon you will be able to earn up to the maximum of 10 points for participation/attendance by writing a 3-page report that discusses the topics we covered on the trip and includes appropriate references cited in the format of Journal of Conservation Biology. If you miss a trip worth 20 points, a report that might get maximum credit would have to be 6 pages long. We will grade these papers and award them letter grades and adjust the points "recovered" accordingly.

We realize that you have lives (cars do break down, people die, stuff happens). In exceptional cases, and if arrangements are made in advance, we will consider your unique situation.

Grades will generally be distributed as follows (any curving will not be "against you"):

≥ 90% A 80-89% B 70-79% C 60-69% D ≤ 59% F

Keep in mind the following, adapted from J.M. Williams (1993, Clarifying grade expectations, The Teaching Professor 7(7):1):

The "A" Student--An Outstanding Student

* Attendance: "A" students have virtually perfect attendance. Their commitment to the class resembles that of the instructor.

* Preparation: "A" students are prepared for class. They always read the assignment. Their attention to detail is such that they occasionally catch the instructor in a mistake.

* Attitude: "A" students have a winning attitude. They have both the determination and the self-discipline necessary for success. They are curious and they show initiative. They do things they have not been told to do.

* Talent: "A" students have something special. It may be exceptional intelligence and insight. It may be unusual creativity, organizational skills, commitment--or a combination thereof. These gifts are evident to the instructor and usually to the other students as well.

* Results: "A" students make high grades on assignments--usually the highest in the class. Their work is a pleasure to grade.

Any student with a documented disability who feels they may need academic adjustments or accommodation is requested to speak with the instructor by the 2nd week of class. All related discussions will remain confidential. Students should contact the S.A.L.T. Center for Learning Disabilities (Old Main, Room 135; 621-1242) or the Center for Disability Related Resources (2nd and Cherry; 621-3268) prior to discussions with the instructor. These offices will verify the need for special services.

Safety and Preparedness

Please come to lab prepared for the weather (sun, rain, wind, cold, etc.) with enough food, water, clothing, and sun protection to enjoy the outing. Close-toed shoes, pants, long-sleeve shirts, and hats are highly recommended for a safe and enjoyable trip. Real dangers, including scorpions,

rattlesnakes, cactus spines, etc. should be kept in mind. These threats are actually enjoyable given the appropriate precautions, preparations, and attitude.

Money

On our trip to ORPI/Pinacate/CEDO we need to ask you to pay for a few items. Because instructors are not allowed to collect money from students, you will be asked to pay the Pinacate Biosphere Reserve (\$8 for overnight camping) and CEDO (\$10 for lodging, and \$8.50 for an excellent dinner if you choose). Therefore, be prepared to contribute another \$26.50 (or at least \$18) to your education this semester. Consider it a cheap textbook.

Overnight Trip Supplies:

- Sleeping bag
- Gear for cooler weather and rain
- Collapsible sleeping cot or sleeping pad
- Toiletries
- Utensils, bowl/plate, mug or nalgene bottle
- Lantern (optional or share)
- Tent (optional or share) or rain protection
- Campstove (optional or share)
- Proof of citizenship for US-Mexico border crossing
- A little bit of \$\$

For long trips we will discuss ahead of time what meals to bring and tally up what supplies people are bringing to conserve vehicle space. You don't need to go buy all the stuff on this list if you don't already have it; most of it can be borrowed or at least rented.

Please note that the university does not provide medical coverage for students who might become sick or injured on class field trips. You should get personal medical coverage if you do not already have it. **No alcohol or illegal drugs are permitted on field trips.**

Currently you need "proof of citizenship" such as a birth certificate to accompany photo ID for going in and out of Mexico from the U.S. Starting January 1, 2008 we will need passports to cross the border. (http://travel.state.gov/travel/cbpmc/cbpmc_2223.html)

Tentative Conservation Biology Lab Schedule 2007, Meets Friday 1230-1530 (10 of 14 potential meetings)

- 24 Aug. Tumamoc Hill and Introduction, **VAN**
ecological research, study plots, geology, Tucson basin, desert vegetation,
invasive species, introductions, assignments, and schedules
(10 points)
What conservation project would you initiate at Tumamoc Hill? Why?
- 31 Aug. No lab (Labor Day Monday 03 Sept.)
- 07 Sept. Sabino Canyon, **VAN**
(10 points)
How should Sabino Canyon be managed? Why?
Heidi Schewel – 1:15 or 1:30 at visitor's center then to dam, rattlesnake, and maybe further up
- 15 Sept. SATURDAY, Mt. Lemmon all day, **VAN**
leave campus 0700h, return 1800h
Rex Adams ~11am, representative from Lab of Tree-Ring Research
(20 points)
What do you think are the objectives and practices of a group called Sky Island Alliance?
- 21 Sept. Computer Time: Island Biogeography, Pop. Growth, **COMPUTER LAB (meet in BSE328)**
(10 points)
How can computer models aid the field of Conservation Biology?
What are the limitations?
- 28-30 Sept. Huachucas, Austins, etc., Sonora, Mexico. **2.5 days, VAN**
We plan to leave campus at 1230 on Friday the 28th.
(SIA with Hare on 28th? Ramsey on 28th? meet Valer at San Bernardino 10am on 29 Sept,
then to Los Ojos and camp for night, San Pedro on way home)
Return late afternoon to Tucson on Sunday the 30th.
(50 points)
What challenges do you see to ecosystem protection that arise from different political systems and different cultures? Why are the Austin's ranches such special areas to protect?
- 05 Oct. No lab
- 12 Oct. No lab
- 19 Oct. Sewage Treatment / Santa Cruz / Sweetwater Wetland, **VAN**
(10 points)
How does the sweetwater wetland mimic a sewage treatment plant? (include specific mechanisms)
Why is this ironic?
- 26 Oct. Tucson Mountain Park, Diversity Indices, Species-Area Curves, **VAN**
(10 points)
Why are diversity indices & species area curves useful concepts in Conservation Biology?
- 02 Nov. Computer Time: MVP, Sea Turtle Populations, **COMPUTER LAB (meet in BSE328)**
(10 points)
What are the pros and cons of the MVP approach? Explain which lifestages of sea turtles need more protection. Why?
- 10-12 Nov. Organ Pipe, Pinacate, CEDO, 3 day, **VAN** 10-12 Nov. (Veteran's Day Monday 12 Nov)

leave campus 7am on Saturday 10 Nov.
return evening of Monday 12 Nov.
(60 points)

What was the most important conservation challenge you observed on this trip? How would you take on this challenge for the benefit of ecosystem preservation?

16 Nov. No lab

23 Nov. No lab (Thanksgiving Holiday)

30 Nov. Tucson Mountains, Wrap Up, Evaluations (10 points)
**Come to class with a potential writing assignment question.
We will decide as a group which to answer.**

For field trips involving vans we will meet at the appointed time on the south or west side of BSE (4th and Highland).

Short writing assignments worth 100 points (20 pts x 5/10 assignments) over the course of the semester. Limited to one piece of paper for each. Due at the beginning of the next scheduled lab meeting. Graded on content and writing. You may be asked to read aloud to your peers and discuss and defend your point of view.

Tentative Organ Pipe/Pinacate/CEDO itinerary (10-12 November):

Students will be asked to pay for some of the food and lodging costs incurred in Mexico.

Entry and Camping at Pinacate	\$8
Lodging at CEDO	\$10
Dinner at CEDO	\$8.50 (optional)

Saturday 10 November

- 0700 depart
- 1030 short hike
- 1200 lunch picnic
- 1230 meeting with Organ Pipe staff
- 1530 cross border into Sonora, Mexico
- 1700 meet with Pinacate staff
- 1800 set up camp in Pinacate, cook dinner

Sunday 11 November

- 0600 explore pinacate, breakfast on the go
- 0830 break camp, explore pinacate by vehicle
- 1200 leave Pinacate
- 1300 lunch in Puerto Penasco (\$)
- 1400 explore beach and tide pools [check tide charts]
- 1600 arrive CEDO
- 1730 dinner at CEDO (\$)
- 1900 evening presentation at CEDO

Monday 12 November

- 0630 breakfast using CEDO kitchen and our food
- 0800 explore estuary
- 1100 leave CEDO, eat lunch on road in van
- 1130 stop at Dunes on way home
- 1900 arrive Tucson