

ECOLOGY LABORATORY (BIEB 121) Spring 2014
York Hall Room 1310 T/Th 11 a.m.- 4 p.m.

Instructor:

Elsa Cleland, Assistant Professor

Office: Muir Biology Bldg 1115

Office hours by appointment

Graduate Student Teaching Assistants:

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COURSE DESCRIPTION

This is a course in experimental methods in field ecology. The focus will be on natural history, experimental methods, statistical analysis, and scientific communication (writing). Biometry is an essential prerequisite for this course. The emphasis will be on terrestrial ecology, particularly plant and animal ecology, but with forays into intertidal ecology and ecosystem ecology. For much of the quarter we will be in the field (outside) once per week collecting data.

TENTATIVE SCHEDULE

WEEK	Date	Activity/Location
1	Tu Apr 1 Th Apr 3	Syllabus, safety, mark-recapture lab, prep for greenhouse experiment (in lab) Statistics review, Set up greenhouse experiment (meet in lab, walk to greenhouses)
2	Tu Apr 8 Th Apr 10	Intertidal competition (meet at SIO pier at 11:30, we will return to the lab afterwards) How to write a lab report, peer review (in lab)
3	Tu Apr 15 Th Apr 17	Restoration ecology & insect diversity (meet in lab, walk to the Scripps Coastal Reserve) Sample processing/data analysis (in lab)
4	Tu Apr 22 Th Apr 24	Controls on primary production (meet at Elliott Chaparral Reserve) Sample processing/data analysis (in lab)
5	Tu Apr 29 Th May 1	Decomposition 1 (in lab) Decomposition 2, data analysis (in lab)
6	Tu May 6 Th May 8	Eucalyptus spatial aggregation (meet in lab, walk to Ecological Park on campus) Spatial aggregation data analysis (in lab)
7	Tu May 13 Th May 15	Habitat Fragmentation 1 (meet in lab, walk to Ecol. Park, return for data analysis) Habitat Fragmentation 2 (meet in lab, walk to Ecol. Park, return for data analysis)
8	Tu May 20 Th May 22	Optimal foraging (Del Mar Canyon Preserve) Optimal foraging data analysis (in lab)
9	Tu May 27 Th May 29	Individual presentations on SD species of conservation concern Individual presentations on SD species of conservation concern
10	Tu Jun 3 Th Jun 5	Harvest greenhouse experiment (meet in lab, walk to greenhouses) Sample processing/data analysis (in lab) – Final meeting, no final exam

ROOM ACCESS (York 1310)

The door code is 0533053, this can be used to access the computer labs in York 3060 & 3070 as well.

ROOM SAFETY

Please never prop open the door to York 1310 unless class is in session. This is for security reasons – both your safety and the computer's. No food or drink is allowed in any of the York labs – sadly not even coffee.

ASSIGNMENTS

The labs for the quarter will be posted on TED. Please plan to print and bring each lab with you to class.

TEXTBOOK

There is no official textbook, but 2 copies of "Ecology" (Cain, Bowman, Hacker Eds) are on reserve in the Biomedical library. This is the same text used in Intro to Ecology BIEB 102, and is a good reference.

TESTS

There will be NO final exam or tests in this course. The last meeting will be Thursday June 5.

SCHEDULE

For most of the quarter we will be in the field in the beginning of the week collecting data, and in the lab at the end of the week analyzing data. The lab reports or brief write-ups are usually due one week after the data analysis. There are exceptions, however – see the end of the syllabus for due dates. Many of the labs last the entire class period. It is not possible to enroll in another class that overlaps our scheduled lab time.

GROUP WORK

You will often work in groups to collect data. You may analyze data and create graphs and tables as a group, but each individual must do their own writing for homework assignments and lab reports.

FIELD EXCURSIONS

We will be spending much of our lab time in the field. We will often meet at off-campus locations. You are required to provide your own transportation. On the first page of the syllabus, the field sites are in parentheses. Sometimes we will meet in the lab and walk to a field site on campus. You might want to have a bike for those days, or if you want to take the bus back after lab you would want a free UCSD Bus Zone sticker for your UCSD ID (available from the campus parking office in the Gilman Parking Structure). If we do not meet in the lab, you will need to provide your own transportation to the field site. Except for highly unlikely circumstances, we will go on our field excursions rain or shine. Any exceptions will be emailed via your ucsc email account and posted on TED – please check if in doubt.

FIELD EXCURSION CLOTHING

For the outdoor field work you must bring water, wear closed-toe and closed-heel shoes (no sandals, clogs or ballet flats). You should also wear sunscreen and a hat. You may get muddy, dusty, sweaty, rained on, etc. on our field trips, so pick your clothes and shoes accordingly. Long pants are required for field trips to Elliott, Del Mar Canyon Reserve, and the Ecological Reserve.

SAFETY

We take your safety very seriously. There may be spiny cacti, ticks, biting ants, poison oak, and rattlesnakes at our field sites. Please follow all safety instructions in the lab and in the field, failure to do so will result in loss of participation points.

TRAVEL WAIVERS & PHOTO PERMISSION

Please fill out a travel waiver and photo permission form and return during the first lab period.

PRINTING

You will need to have an account to print in the lab. You can set up an account at the ACS web site (<http://sdacs.ucsd.edu/~icc/laser.php>).

ATTENDANCE

Attendance at every class meeting is required. Please be on time. We work as a group - it is not fair to those who arrive on time to have to wait for latecomers. Also, some of our field sites are behind locked gates, if you are late you will miss the lab entirely. 20% of your grade is for participation, while most of you will easily earn these points, you will lose these points if you are absent, late, or not contributing to the activity. If you are ill or have an unavoidable emergency you must supply written documentation in order to avoid losing participation points (e.g. doctor's note). If you miss a lab you will be assigned 5 hours of lab or field activities in a time that fits into your schedule and it is still your responsibility to get data from your group, and turn in your lab report or brief writeup on time.

DROP POLICY / WAIT LIST

The Division of Biology requires that all students attend the 1st meeting of any lab course, otherwise you will be dropped from the course. The drop policy for lab courses is different than for lecture courses. Any student that drops after the end of the second lab meeting will have a "W" on their transcript. The Division of Biology has an automated, first on, first off policy regarding the wait list. The Division's policies are detailed on this website: <http://biology.ucsd.edu/undergrad/course/waitlist.html>. If you are on the wait list and hope to add, you should participate in ALL course activities, exactly as if you were enrolled.

SUPPLIES YOU PROVIDE

Laptop (it's helpful for at least one person in a group to have one on Thursdays when we are analyzing data), pens, all printed materials (including data collection sheets and labs posted on TED).

WRITING

Writing will be a large portion of your grade. Good writing takes practice and effort, just like learning to play the piano or play a sport. Scientific writing is a genre with specific expectations, and practice is the only way to improve. We will discuss the findings that related to each lab report in class, and will try and give as many suggestions as possible in the grading process. Grading expectations will get stricter as the quarter progresses as we expect you to incorporate these suggestions. There are no re-writes. Labs will be graded both on specifics (did you address all the hypotheses?) and on the general qualities (did you convey the information in the clearest, most concise manner possible?). Because of this, there will often be more than one right way to do things. Your overall ability to communicate, through words, statistics, and graphics, will count for a lot. If you are concerned about your writing, have a friend read it through for clarity. They can't write your report for you, nor can you copy theirs, but they can give you friendly comments with the goal of improving your writing.

GRADING

Your grade for the course will be based on a total of 1000 points. 20% of your final grade (20 points each week, for a total of 200 points across the quarter) will be based on participation (including attendance, attitude and contribution to the exercises). Each lab report is worth 100 points, you will write 5 over the quarter. In the weeks when you do not write a lab report you will write one or two "brief write-ups" each worth 50 points. For lab reports, content will account for 75% of the grade, based on correctness and completeness of information conveyed in 5 equally weighted components: 1) introduction, 2) description of the methods, 3) presentation of results, and 4) interpretation of discussion, with 5) proper citation of references. The remaining 25% will be based on clarity: writing concisely without unnecessary information, in complete sentences, with proper spelling and grammar. For brief write-ups, there will be a similar breakdown between content and clarity, but the focus will be on completing all of the elements assigned, which may vary by assignment.

ACADEMIC INTEGRITY

Students are expected to do their own work. Cheating will not be tolerated and all suspected cases will be handed over to the Academic Integrity Coordinator. Any student caught cheating will fail the course. For information on academic integrity at UCSD: <http://www.senate.ucsd.edu/manual/appendices/app2.htm>