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ECOLOGY LABORATORY (BIEB 121) FALL 2017
York Hall Room 1310 W/F 12:00 – 4:50 PM
TENTATIVE LAB SCHEDULE

<u>WEEK</u>		<u>FIELD/LAB WORK</u>
0	F Sept 29	Syllabus, safety, goals & outcomes, tree tour (campus)
1	W Oct 4 F Oct 6	Equipment sign out, Bioblitz (SCR, meet in lab) Insect ID & preservation
2	W Oct 11 F Oct 13	Sci writing I.genres, II.student examples <i>Baccharis</i> data collection (SCR, meet in lab)
3	W Oct 18 F Oct 20	Stats review & JMP intro Sci writing III.Results, <i>Baccharis</i> data analysis
4	W Oct 25 F Oct 27	Urban ecology (campus); Sci Writing IV.story, V.Burghardt Urban Ecology data (collect traps on campus)
5	W Nov 1 F Nov 3 (low tide)	Urban ecology data analysis; Sci Writing VI.context Beach Ecology (SCR beach, meet in lab)
6	W Nov 8 F Nov 10	Beach ecology data analysis Veteran's Day HOLIDAY
7	W Nov 15 F Nov 17 (low tide)	Field Trip (TBD) Kendall Frost marsh (meet in Pacific Beach)
8	W Nov 22 F Nov 24	Optional attendance: work on insect collection Thanksgiving HOLIDAY
9	W Nov 29 F Dec 1	Kendall Frost marsh data analysis Career Day
10	W Dec 6 F Dec 8	Student-led tour of UCSD natural history (campus) Insect Collection due 4 PM

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. About one quarter of our class days will be spent in the field (outside) collecting data. Much of our work will be original research – generating information that is new to science.

ROOM ACCESS (York 1310)

Students can find the information on-line using the Account Lookup link at <http://acs.ucsd.edu>. Look for the list of rooms specific to the class and will find a password protected link for the door code. This link now provides an option to have the code e-mailed to a student's cell phone. The room is available for you to use outside of class, although it is used most of the time by other classes. Fall 2017 it will be occupied M/T/Th 8:30 AM - 6:20 PM.

ROOM SAFETY

Never, ever, ever prop open the door to York 1310 unless class is in session. ACMS will rescind all students' access codes if they see the door propped open. This is for security reasons – both your safety and the computer's. No food or drink is allowed in any of the York labs – not even coffee.

LAB BOOK

The “lab book” for this course is available on the course website. You will need to print hard copies of the lab handouts and data sheets that we will use in the field. These are indicated on TED with the word “PRINT”.

TESTS

There will be NO final exam in this course, but you should be available electronically during finals week. If I have any questions about your insect collection I will ask you by email. The last class meeting will be Friday December 8, 2017.

PREPARATION

Read the “Required Reading” listed below before you come to class. We will have a quick class question session & discussion before each lab. The expectation is that you have thought about and can discuss the reading.

GROUPS

You will be working in groups of 2 - 3 for the duration of the quarter. You will collect and 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

On the first page of the syllabus, the field sites are in parentheses. Note that on Friday November 17 we will meet at the Kendall Frost Marsh in Pacific Beach. Directions are in the lab. You are required to provide your own transportation. The other field trips will be a walk or shuttle ride from campus.

Except for highly unlikely circumstances, we will go on our field excursions rain or shine. Any exceptions will be posted on TED – please check if in doubt. If there is nothing posted, we will be going out.

During most of the field excursions you will be able to collect insects for your insect collection. It is a good idea to bring collecting equipment – nets, vials with and without EtOH, aspirator, and kill jar. You may also want to bring a pocket knife, hand lens, binoculars, and field guides if you have them.

FIELD EXCURSION CLOTHING

Suggestions: For the outdoor field work I suggest that you bring water and 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. Older and dumpier is better!

Requirements: I require that you wear closed-toe and closed-heel shoes (no sandals, no clogs, no ballet flats). Sneakers are a great option. You will be counted as absent if you show up on a field trip in sandals. (One exception is the Nov 3 beach lab – you can wear any footwear you want.) There may be spiny cacti, ticks, biting ants, poison oak, and rattlesnakes at all of our field sites.

TRAVEL WAIVERS

Please fill out a travel waiver and an NRS waiver and return to me today.

PHOTO PERMISSION

Please fill out a photo permission form and return to me today.

LAB REPORTS

Labs are due at the beginning of class. I will deduct 5% per 24 hrs (or any part thereof) for late labs. The only exception is with a written documentation, such as a doctor's note. Please be sure to hand in your lab on the day it is due. I can not give full credit if you forget to turn in your lab.

Writing will be a large portion of your grade. Being a good writer is not a magical gift some people are given and others denied. Good writing takes practice and effort, just like learning to play the piano or hit a baseball. And scientific writing is a very specific genre with specific expectations, so practice can really make a difference. Labs will be graded both on specifics (did you address all the questions set for you?) 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. There is a campus-wide writing center (<https://commons.ucsd.edu/students/writing/index.html>) available for students who would like extra help with their writing.

PRINTING

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

ATTENDANCE

Be sure to sign in on the sign-in sheet. Attendance at every class meeting is required. If you miss a lab you need written documentation (doctor's note, etc.) as to the reason. Otherwise, you will lose 20 points per day for any absence. Also, you will miss 5 pts per lab for arriving late (one late arrival free), more if your late arrival hold ups the rest of the class. We work as a group - it is not fair to those who arrive on time to have to wait for latecomers. Some of our field sites are behind locked gates – we have to wait for you if you are to participate. Some of the field excursions take the entire lab period, and students will have class immediately after this lab. The late policy will be in effect immediately.

If you miss a lab it is your responsibility to get data from your group. You will receive 50 points for active participation throughout the quarter - for being a contributing member of your group. I suspect that every one of you will easily earn all of these points, but you can lose points for being here physically but not mentally (i.e. shopping on your lap top while your colleagues are analyzing data).

The Biology Department requires that all students attend the 1st meeting of any lab course, otherwise you will be dropped from the course.

OUTSIDE OF CLASS

In addition to normal homework expectations, there are several activities that you will need to do outside of class. First, the class has a Facebook page (<https://www.facebook.com/sdbiodiversity/>) that you can post to. Second, we will investigate the effect of campus landscape management on insect biodiversity. Each group will pick their own sample sites, based on the treatments described in the lab. Look around campus between now and Oct 25 to find appropriate sites. There are also two quarter-long projects. You will put together an insect collection. To be successful, you should plan on spending time exploring different habitats throughout the quarter, both in and outside of class. Finally, your group will be introducing the rest of the class to something interesting about the natural history of campus. Be observant as you wander around campus to find a good topic.

DROP POLICY / WAIT LIST

The Division of Biology's policies are detailed on this website: (<http://biology.ucsd.edu/go/ug-labs>) 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 Biology Department has an automated, first on, first off policy regarding the wait list. 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

flash drive for saving & moving data
printed material as indicated on TED
field-appropriate (old) clothing
some way to record GPS coordinates (I believe all smart phones will do this for free- do NOT buy anything. One device per group is sufficient.)

SAFETY

Students must take the online safety course prior to the start of class (<https://dbsportal3.ucsd.edu:3443/safety-training/>). We will have additional safety rules for our field excursions. I take safety very seriously. If I see anyone flagrantly breaking a safety rule while we are in the field I will give them a zero for attendance.

ACADEMIC INTEGRITY

Students are expected to do their own work, as outlined in the UCSD Policy on Academic Integrity (<http://students.ucsd.edu/academics/academic-integrity/policy.html>). Cheating will not be tolerated and all suspected cases will be handed over to the Academic Integrity Coordinator, which reports directly to the Dean of the student's college

THE END OF THE QUARTER

- a. Check in your equipment. Please don't forget your aspirator, insect nets, etc. in your car or at home. If anything is missing or broken, let us know so we can replace it for next year.
- b. Most equipment should go back in your cabinet
- c. Place all stuff that you have partially used up (insect labels, pins, clean vials, foam strips) on top of your lab bench – again so we can re-stock for next year.
- d. Empty and uncapped dirty vials and put in the sink. Take all tape off the vials!**
- e. Please do not leave any minuten pins in your protom boards – if they can not be re-used stick them to a piece of tape and place in the sharps waste container.
- f. Do not leave any extra containers – beakers, jars, vials - with dirt, organisms, unknown liquids on your lab bench. Dispose of chemicals properly. Throw away any unused insects.

I WILL DEDUCT PARTICIPATION POINT FOR FAILURE TO CLEAN UP.

REQUIRED READING

<u>WEEK</u>	<u>DATE</u>	<u>DUE</u>
1	W Oct 4	Insect Collection
1	F Oct 6	look at all other files in Insect Collection folder
2	W Oct 11	Scientific Writing Overview, Grading Rubric for scientific papers
2	F Oct 13	<i>Baccharis</i> pollination lab
3	W Oct 18	Stats Review and Introduction to JMP
3	F Oct 20	Glenn & Holway 2008 (abstract)
4	W Oct 25	Urban Ecology lab, Burghardt et al. 2008
4	F Oct 27	
5	W Nov 1	Burghardt et al. 2008, Crafting beautiful sentences
5	F Nov 3	<i>Donax</i> lab
6	W Nov 8	Manning and Lindquist 2003
6	F Nov 10	HOLIDAY
7	W Nov 15	
7	F Nov 17	Kendall Frost marsh lab
8	W Nov 22	optional attendance
8	F Nov 24	HOLIDAY
9	W Nov 29	Lorda and Lafferty 2012

DUE DATES

<u>WEEK</u>	<u>DATE</u>	<u>DUE</u>	<u>POINTS</u>
1	F Oct 6	Labeled insects (in class)	25
2	W Oct 11	Sci Writing I & II (in class)	50
2	F Oct 13	<i>Baccharis</i> data (in class)	25
3	W Oct 18	Statistics worksheet (in class)	50
3	F Oct 20	Sci Writing III (in class)	25
4	W Oct 25	<i>Baccharis</i> Results section	75
4	W Oct 25	Urban ecology sample sites	25
4	W Oct 25	Sci writing V (in class)	25
4	F Oct 27	Urban ecology data (in class)	25
5	W Nov 1	Insect Collection check	25
5	W Nov 1	Sci writing VI (in class)	25
5	F Nov 3	beach ecology data (in class)	25
6	W Nov 8	Urban Ecology paper	200
6	F Nov 10	HOLIDAY	
7	W Nov 15		
7	F Nov 17	Beach paper	200
8	W Nov 22	Kendall Frost marsh data	25
8	F Nov 24	HOLIDAY	
9	W Nov 29	Facebook posts	25
9	F Dec 1	UCSD natural history blog post (group project)	25
9	F Dec 1	Career worksheet	50
10	W Dec 6	KF paper	200
10	W Dec 6	Natural History tour (group project)	50
10	F Dec 8	Insect collection, due 4 PM	300
		Reflections (10 pts/week & 20 pts beg/end)	120
		Participation	50
TOTAL			1645

REQUIRED PRINTING

<u>WEEK</u>	<u>DATE</u>	<u>DUE</u>
2	W Oct 11	Grading Rubric for scientific papers Sci writing worksheet I. genres
2	F Oct 13	<i>Baccharis</i> pollination lab
3	W Oct 18	Statistics worksheet
4	W Oct 25	Urban Ecology lab
5	F Nov 3	<i>Donax</i> lab & <i>Donax</i> data sheets abundance & <i>Donax</i> data sheets size
7	F Nov 17	Kendall Frost horn snail lab & separate data sheets
10	F Dec 8	insect collection tally (2) & grade (1) sheets