

Dr. Heather Henter  
office Muir Biology Building 1145A  
hhenter@ucsd.edu  
phone 858-534-8494

TA Elizabeth Hetherington, ehetheri@ucsd.edu  
Muir Biology Bldg 4268  
TA Henry Cen, hjcen@ucsd.edu  
Muir Biology Bldg 2145

office hours by appointment

**ECOLOGY LABORATORY (BIEB 121) FALL 2014**  
**York Hall Room 1310 T/Th 12:30 PM - 5:30 PM**  
**TENTATIVE LAB SCHEDULE**

<u>WEEK</u>		<u>FIELD/LAB WORK</u>
0	Th Oct 2	Syllabus, safety, goals & outcomes, UCSD natural history
1	T Oct 7 Th Oct 9	Equipment sign out, Bioblitz (SCR, meet in lab) Insect ID and preservation
2	T Oct 14 Th Oct 16	Urban ecology, Stats review & JMP intro Urban ecology samples, Scientific Writing I: Results
3	T Oct 21 Th Oct 23	Urban Ecology data analysis San Diego Biodiversity Project (SCR, meet in lab)
4	T Oct 28 Th Oct 30	Photo-microscopy, process specimens Photo-microscopy, spider database entry
5	T Nov 4 Th Nov 6	Kendall Frost Marsh ( <b>meet in Pacific Beach</b> ) Kendall Frost data analysis
6	T Nov 11 Th Nov 13	HOLIDAY Scientific Writing II, BML workshop
7	T Nov 18 Th Nov 20	Peer review Beach Ecology (SCR beach, meet in lab)
8	T Nov 25 Th Nov 27	ID beach samples HOLIDAY
9	T Dec 2 Th Dec 4	Beach data analysis Careers Day
10	T Dec 9 Th Dec 11	Biodiversity & phylogeny Work on insect collection

## **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.

## **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 at A.S. Soft Reserves (<http://softreserves.ucsd.edu/>), located in Student Center A, across from the Food Coop. Hours: M-TH 9 AM - 6 PM, Fri 9 AM - 5 PM, Saturday (week 0 - 2 only) 10 AM - 2 PM. Bring your lab book to every BIEB 121 class.

## **TESTS**

There will be NO final exam in this course. The last meeting will be Thursday December 11, 2014.

## **PREPERATION**

Read the "Required Reading" listed below before you come to class. We will have a quick class 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 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 November 4 we will meet at the Kendall Frost Marsh in Pacific Beach. You are required to provide your own transportation. The other field trips will be a walk or bus ride from campus. *You will want a free UCSD Bus Zone sticker for your UCSD ID* (available from the campus parking office in the Gilman Parking Structure).

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. *The Kendall Frost lab will be quite muddy - bring rubber boots if you have them.*

Requirements: I insist 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 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 ([writingcenter.ucsd.edu](http://writingcenter.ucsd.edu)) 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 1<sup>st</sup> 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. You will need to spend time in the field collecting insects. You will also need to collect data for the urban ecology lab. You will need to set out and pick up pitfall traps at sunset the evening of Tuesday October 14 and sunrise and sunset on Wednesday October 15.

### **DROP POLICY / WAIT LIST**

The Division of Biology's policies are detailed on this website:

<http://biology.ucsd.edu/undergrad/Waitlist.html>

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, Soft Reserves lab book, field-appropriate (old) clothing, some way to record GPS coordinates (I believe all smart phones will do this - one device per group is sufficient)

### **SAFETY**

I take safety very seriously. I will have various rules regarding safety during our field trips. These safety rules must be obeyed. If I see anyone flagrantly breaking a safety rule 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

## INSECT COLLECTION

You will put together an insect collection. This will be a largely independent project. To be successful, you should plan on spending time exploring different habitats throughout the quarter, both in class *and outside of class*. Note - collecting will get harder as the weather gets colder. Plan to collect as much as possible as early as possible in the quarter.

## 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 uncap 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

1	T Oct 7	Insect Collection handout (lab book pp 13-25)
	Th Oct 9	Insect Collection handout (lab book pp 27-57)
2	T Oct 14	Urban ecology lab (lab book pp 133-135)
		Stats review & JMP intro (lab book pp. 73-84)
	Th Oct 16	Scientific Writing Results (lab book pp. 59-63)
3	T Oct 21	Urban Ecology paper (TED)
	Th Oct 23	San Diego Biodiversity Project (SDBP) (lab book pp. 137-140)
		Biodiversity paper (TED)
4	T Oct 28	SDBP: Photography (lab book pp. 141-145)
	Th Oct 30	SDBP: Creating a specimen page (lab book pp. 147-148)
5	T Nov 4	Snail Ecology at Kendall Frost lab (lab book pp. 149-157)
	Th Nov 6	<i>Cerithidia</i> paper (TED)
6	T Nov 11	HOLIDAY
	Th Nov 13	Scientific Writing (lab book pp. 63-69)
7	T Nov 18	Review writing rubric (lab book pp. 70-71)
	Th Nov 20	Beach Ecology (lab book pp. 159-173)
		Sandy beach field guide (TED)
8	T Nov 25	Sandy beach paper (TED)
	Th Nov 27	HOLIDAY
9	T Dec 2	no required reading
	Th Dec 4	Job information for ecology students (lab book pp. 175-180)
10	T Dec 9	San Diego Biodiversity Project worksheet (TED)
	Th Dec 11	no required reading

**DUE DATES**

<u>WEEK</u>	<u>DATE</u>	<u>DUE</u>	<u>POINTS</u>
1	Th Oct 9	Labeled insects (in class)	25
2	T Oct 14	Statistics worksheet (in class)	50
3	T Oct 21	Urban Ecology Results (in class)	75
4	T Oct 28	Spider data (in class)	25
4	Th Oct 30	SDP Specimen pages (3)	50
6	T Nov 13	KF Results	75
6	T Nov 13	BML worksheet (in class)	25
7	T Nov 18	KF scientific paper	200
7	T Nov 18	Peer review (in class)	50
9	Th Dec 4	Career worksheet	25
10	T Dec 9	Sandy beach scientific paper	200
10	T Dec 9	Phylogeny worksheet (in-class)	50
10	F Dec 12, 12 noon	Insect collection	300
		Required reading	50
		Participation	50
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TOTAL			1250