BIEB 135 Syllabus Fall 2019
Aquatic Ecology Lab

Lab: Monday and Wednesday 1:00-5:50pm York 4124
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BIEB 135 (***Aquatic Ecology Lab***) provides an overview of the physical, chemical and biological processes that characterize inland and coastal waters (lakes, streams, estuaries and the ocean). This course will introduce some of the dominant biota of aquatic environments, and how they are related to physical and chemical processes of the systems in which they reside. A series of case studies and contemporary issues will also be presented to highlight the interdisciplinary nature of this science, and its application to environmental problem solving and conservation. You will learn to use methods for sampling the physical and biological environment and experiments to measure key processes. The course emphasizes data analysis and presentation and scientific writing.

Date	Topic	Reports
September 30	Introduction to the course & Safety lecture	
October 2	Introduction to Freshwater Ecology- Physical, chemical and biological properties of water	
October 4	Ocean cruise, Sproul	
October 7	Lab 1: Field Trip: Miramar and Lake Murray Reservoirs (Field work)	
October 9	Lab 2: Field Trip: Pure Water facility	
October 14	Lab 1: Plankton identification and measurement (Lab Work)	**Notebooks**
October 16	Lab 1: Lake lab work and data analysis	**Notebooks**
October 21	Lab 2: Dawson Creek and San Diego River sampling, (Field work)	**Notebooks**
October 23	Lab 2: Stream invertebrates (Lab work)	**Notebooks**
October 28	Lab 2: Stream lab work and data analysis	**Notebooks**
October 30	Lab 3: Estuarine sampling (Field work)	**Notebooks**
November 4	Lab 3: Estuarine invertebrates (Lab work)	**Notebooks**
November 6	Lab 3: Estuarine lab work and data analysis	**Notebooks**
November 11	NO CLASS- VETERANS DAY	

November 13	Lab 4: Class lab experiment: control of productivity	**Lab 1 Report Due**
November 18	Lab 4: Sample Lab experiment, data analysis	**Notebooks**
November 20	Lab 4: Experiment lab work and data analysis	**Notebooks**
November 25	Lab 5: Independent project lab/field work	
November 27	Lab 5: Final data analysis and oral presentations	**Lab 2 Report Due**
December 2	Oral presentations, topics in Aquatic Ecology	
December 4	Oral presentations, topics in Aquatic Ecology	

Course Policies- ATTENDANCE AT LABS AND FIELD TRIPS IS MANDATORY! Your grade will be substantially reduced for an assignment if you miss any of the labs or field trips. Assignments turned in late are penalized at 10% per day. If you have a medical reason for missing class, you will not be penalized as long as you provide suitable documentation from a health care provider. However, you should not come to lab if you are ill with a contagious disease.

Field excursions- We will be spending some of our lab time in the field. We will often meet at off-campus locations. You are required to provide your own transportation. The field sites will be posted on TED. You will need to provide your own transportation to the field site.

LAB SAFETY (York 1310) No food or drink is allowed in any York labs – sadly not even coffee. Please never prop open the door to York 1310 unless class is in session. This is for security reasons – both your safety and to prevent theft of equipment or computers.

LAB ETIQUETTE Multiple other courses are using York 1310 this quarter, and ecology lab activities are sometimes fairly dirty, because we bring in materials from the field. At the end of each class period you should wipe down the lab bench with a paper towel and water. Any table that needs to be cleaned by the TAs or Professor will lose participation points for that day.

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 described at:
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.

WRITING Writing will be a large portion of your grade. Good writing takes practice and effort, just like any skill. Scientific writing has specific expectations, and practice is the

only way to improve. We will discuss the findings that relate 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 this feedback. 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 just as professional scientists solicit friendly reviews of their work.

GRADING Your grade for the course will be based on a total of 1000 points. One fifth of the total (200 points) is for participation, including arriving on time and contributing to the exercises each day (10 points per day). You will keep a Lab Notebook throughout the quarter. There will be four random lab notebook checks, each worth 50 points, during Weeks 3-8. You will write two lab reports over the quarter, each worth 200 points. One will be a synthetic comparison of the four aquatic ecosystems we sampled, and the other will be based on your independent research project. During week 10 you will work on a group project with a presentation on a topic in aquatic ecology worth 200 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. All assignments are due by the start of the class meeting period on the due date, late assignments will lose 10% for each day the assignment is late (ex. 1 day and 1 hour late = 10% reduction in the grade).

In addition to lateness, your grade on lab reports will be reduced for missing labs, arriving late or leaving early. For instance, each lab report is based on 3 class periods. If you miss all or part of one, your grade will be reduced by 1/3, meaning your maximum possible grade will be 67%. Missing class is very costly to your grade.

Finally, in week 10 you will make an individual presentation on a specific topic in published papers from the scientific literature, worth 20% of your final grade. More information on assignments, including rubrics, will be found on TritonED.

LAB NOTEBOOKS

You will keep a virtual lab notebook over the quarter as a Google doc. For each exercise you'll briefly summarize the question, study site & methods, and present the results. Make sure you include the figures and any statistical results, as well as discuss whether the results did or did not support our initial hypotheses. Note that you can choose to write your second lab report based on any of the labs from weeks 3-8, and the notes from your lab notebook will form the basis for that lab report. The lab notebooks will not be graded

daily, but rather we will grade lab notebooks twice randomly between weeks 3 and 8. In lab on those days you will be asked to download your lab notebook as a pdf and use the Turnit In link on Triton Ed to grade the assignment. Assignments cannot be graded via email.

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*. Submitting any material written by someone else (copied from a lab member, or from any on-line source) is a violation of academic integrity. For information on academic integrity at UCSD:
https://students.ucsd.edu/academics/academic-integrity/index.html
Schedule
