Freshwater Ecology Laboratory (BIOL 481L)
Fall 2018; SCI2 119
Fri 11:00 AM - 1:50 PM

Instructor: Dr. John Hutchens
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Office Hours: MW 10:00 AM – 12:00 PM, TH 11:00 AM – 12:00 PM or by appointment
Course web site: http://ww2.coastal.edu/jjhutche/bio481l.htm

Required text: none

Course Description from CCU Catalog: Laboratory and field exercises devoted to understand the interactions of physical, chemical, and biological properties of freshwater ecosystems.

Objectives: My objective for this lab is to provide you with hands-on experience 'doing' freshwater ecology. You will gather and analyze data to answer ecological questions. Your primary task will be to participate in a group project that you will help design, conduct, analyze, and present. Conducting independent research is a critical skill needed by ecologists and is expected for juniors and seniors.

Student Learning Outcomes: Students who successfully complete this course will be able to:

1. Conduct freshwater ecological studies in the field using standard methods.
2. Perform ecological-related calculations by hand and with appropriate computer programs (e.g., Microsoft Excel).
3. Perform appropriate statistical and graphical analyses for freshwater ecology data.
4. Understand and communicate scientific and statistical results related to ecological experiments.
5. Prepare appropriate graphs related to ecological experiments using a style suitable for publication.
6. Write scientific reports about experiments conducted in class using a style suitable for publication.
7. Prepare effective scientific hypotheses.
8. Find and summarize primary scientific literature related to freshwater ecology.

Grading: BIOL 481L comprises 27% (200 points) of your BIOL 481 grade. You must pass the lab to receive a passing grade for BIOL 481. Your grade for the lab portion of this class is based on one data analysis assignment and the class project. The class project will be divided into sections to be completed over the semester.

Cheating and plagiarism will not be tolerated, and a grade of F will be given for the assignment.

Point Distribution:

Assignment	**Points**
Data analysis project	35
Class research project	165
Total	200

Class research project sections	**Points**
Five references with brief summaries	15
Scientific hypotheses	20
Introduction	30
Results with graphics	50
Discussion	50
Total	165

Attendance: Attending lab exercises is mandatory, except for a university excused absence (see http://www.coastal.edu/policies/policyDetails.html?x=120 for details). As per university policy, if you miss more than 25% of labs (more than four exercises) with unexcused absences you will receive an F for the course.

Learning disabilities: Students with documented learning disabilities should see me at the beginning of the semester so special arrangements can be made, if necessary, for your success in this course.

Other disabilities: Coastal Carolina University is committed to equitable access and inclusion of individuals with disabilities in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Individuals seeking reasonable accommodations should contact Accessibility & Disability Services (843-349-2503 or https://www.coastal.edu/disabilityservices/). The Americans with Disabilities Act indicates "title II and title III entities must permit service animals to accompany people with disabilities in all areas where members of the public are allowed to go." As such, service animals are permitted in lab settings at Coastal Carolina University. Emotional support animals are not permitted in lab settings unless it is approved as a classroom accommodation. Students with service animals are strongly encouraged, but not required, to inform lab instructors of the use of a service animal. This communication provides both the student and the instructor with an opportunity to discuss and plan for the safety of the service animal as well as any other safety concerns. Students and instructors should contact Accessibility & Disability Services (843-349-2503 or https://www.coastal.edu/disabilityservices/) regarding any potential accommodations or for support and assistance.

Schedule: This schedule is tentative and subject to change.

Week	Date	Exercise
1	Aug 24	Class and project introduction
2	Aug 31	Experimental design and hypotheses; sample preparation; **Citations due**
3	Sep 7	Lewis Ocean Bay survey and sample placement
4	Sep 14	Begin data analysis project; **Hypotheses due**
5	Sep 21	Finish data analysis project
6	Sep 28	Lewis Ocean Bay sampling 1; **Introduction due**
7	Oct 5	*Student holiday*
8	Oct 12	Sample processing
9	Oct 19	Lewis Ocean Bay sampling 2
10	Oct 26	Sample processing; Data analysis
11	Nov 2	Sample processing; Data analysis
12	Nov 9	Lewis Ocean Bay sampling 3
13	Nov 16	Sample processing; Data analysis
14	Nov 23	*Thanksgiving Break*
15	Nov 30	**Results & Discussion due**

Field work: Most of our exercises involve gathering data in the great outdoors. We will go RAIN or SHINE. Come prepared!!! Some hints:

- Wear appropriate shoes and clothing for getting wet and dirty—bring waders or knee boots if you have them
- Expect high heat and bright sun
- Expect to be potentially bit or stung (bring repellant and allergy kits)
- Have a positive attitude