

BISC 108 – SPECIAL LABORATORY I SYLLABUS
SPRING 2018

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Office hours: Open door policy

Laboratory Schedule:

<u>Lab #</u>	<u>Date</u>	<u>Laboratory</u>
	Jan 11 & 12	NO LAB THIS WEEK
1	Jan 18 & 19	Introduction to BISC 120 Labs & Assignments Laboratory Safety
2	Jan 25 & 26	The Microscope
3	Feb 1 & 2	Scientific Investigation I (Beans & Beetles*)
4	Feb 8 & 9	Scientific Investigation II / Intro to Scientific Writing
5	Feb 15 & 16	Evolution
6	Feb 22 & 23	Animal Behavior (Lab Report 1 due)
7	Mar 1 & 2	Bacteria I / Scientific Writing Review (Lab Report 1 peer review due)
8	Mar 8 & 9	Bacteria II*
	Mar 15 & 16	SPRING BREAK – NO LAB THIS WEEK
9	Mar 22 & 23	Plants (Lab Report 2 due)
10	Mar 29 & 30	Beetle Experiment Conclusion
11	April 5 & 6	Amphibians and Fishes Comparison
12	April 12 & 13	Ecology
	April 19 & 20	LAB EXAM
	April 26 & 27	Biodiversity Conservation Presentations

* Lab exercise for which 5 -7 pages, type-written lab report is required.

 Tide Pools Field Trip – TBA (optional)

Learning Objectives:

- ✚ To know the concept of the scientific method
- ✚ To understand how the scientific method is applied to key questions regarding the nature of life on Earth
- ✚ To be able to design and conduct scientific investigations
- ✚ To be able to think critically about how experimental evidence answers a scientific question
- ✚ To be able to perform biological laboratory techniques
- ✚ To know the mechanisms of heredity
- ✚ To know the theory of evolution and understand how evolution explains the diversity of life on Earth
- ✚ To know the defining characteristics of bacteria, plants and animals
- ✚ To understand how the environment and organisms contribute to the evolution of ecological relationships
- ✚ To understand the trophic levels and flow of energy through an ecosystem
- ✚ To understand how the environment has changed and continues to change and how this affects the evolution of life on Earth
- ✚ To be aware of the constant habitat destruction and continuous decline in biodiversity and to know the importance of conservation biology

Required Textbook:

[SPRING 2018 BISC 120 Laboratory Manual](#). PDF will be **posted on Blackboard** and printouts of chapters must be brought to lab each week.

Recommended Textbooks:

Adams & Crawley (2013). [Van De Graaff's Photographic Atlas for the Biology Laboratory](#), 7th ed.

Pechenik. [A Short Guide to Writing About Biology](#). 8th ed. (e-copy included with the USC custom textbook).

LABORATORY POINT DISTRIBUTION

The laboratory portion (**330 points**) will count for **33%** of your final course grade, distributed as follows:

Lab Quizzes (10 – 5 points each)	50 pts
Homework (4 – 5 points each)	20 pts
Lab Report (2 – 40 points each)	80 pts
Peer review	10 pts
Lab Exam	100 pts
Biodiversity Conservation Presentation	30 pts
Lab Manual (2 points per chapter)	20 pts
Lab Participation (2 points per lab)	20 pts

LABORATORY PERFORMANCE GUIDELINES

You are required to attend all lab sessions. Any unexcused absences will seriously affect your evaluation and lab participation points. Come to lab on time. You are also to remain for the entire lab session or until excused by your instructor. DO NOT make any other appointments for the time you are scheduled to be in lab.

You are required to wear closed toe shoes, long pants and a knee-length lab coat. Goggles will be provided in lab.

Before you begin the lab exercise, make sure that you remove all unnecessary materials from your work area. At the end of the lab session, clean and return all supplies to their proper place, clean your work area, and slide your chair under the table. Check with your instructor before leaving.

NO EATING OR DRINKING IS ALLOWED IN THE LABORATORY UNDER ANY CIRCUMSTANCES.

PRE-LAB QUIZZES

Each student will take a **Blackboard pre-lab quiz** prior to coming to lab each week. Quizzes will consist of 5 multiple choice questions. Questions will test your knowledge of the material you will be covering that week in lab.

LAB MANUAL

During each lab students need to record their results (drawings, observations, calculations) in their lab manual. Tables need to be filled and all post-lab questions answered. Each student is required to show his/her TA the lab manual before leaving the lab and obtain their signature. Lab manuals will be checked periodically throughout the semester.

LAB REPORTS

Two lab reports will be written during the semester. Lab reports must be posted on Blackboard (*Lab Reports* turnitin link) and a hard copy turned in at the beginning of the lab session. Lab report guidelines will be posted on Bb (<https://blackboard.usc.edu/>) in the beginning of the semester.

FIRST LAB REPORT PEER REVIEW

Each student will review one of their lab-mates' lab reports. Instructions will be posted on Blackboard once the semester starts.

LAB EXAM

The cumulative lab exam will test your comprehension of the topics, concepts and exercises covered during the semester. Emphasis will be on application and analysis.

Missed Lab Exam: *It is your responsibility to be present on the days of the lab practical exams.*

If you miss a lab exam due to a serious illness, you must present a valid excuse to the Lab Manager Gorjana Bezmalinovic (bezmalin@usc.edu) **within 48 hours** of the missed exam. A valid excuse is considered to be an official note from your doctor. Note that neither you, nor your doctor, need to tell us the nature of your illness; we just want to verify whether you were too ill to take the exam. If you miss an exam for non-illness related reasons, you must provide similarly convincing documentation of the emergency to the Lab Manager. If we judge your excuse to be valid, you will be allowed to take the exam in another lab section that week. If you do not have a valid excuse or fail to provide it within the allotted time, you will receive zero points for the missed lab practical exam.

MISSED LABS

If you miss a scheduled lab exercise due to illness or emergency, please contact the Lab Manager (bezmalin@usc.edu) to see whether it will be possible to make up the exercise by attending an alternative lab section. For logistical reasons, it will not be possible to make up a missed lab exercise after Friday afternoon of the week in question. Therefore, students with labs scheduled on Fridays will have little or no alternative should they miss lab unexpectedly. Only a few requests for alternative labs can be accommodated, because few sections have available space. Therefore, it is very important for you to attend your scheduled lab section.

Students who wish to miss a lab for observance of a religious holy day should be aware of the University's policy on such absences, published at: <http://orl.usc.edu/religiouslife/holydays/absences.html>. Requests for such absences should be made by email addressed to the Lab Manager (bezmalin@usc.edu) at least 2 weeks in advance of the absence. If the absence is approved, the instructors will determine a reasonable accommodation for the student.

Student-athletes who must miss occasional labs for legitimate reasons should bring the SAAS excuse letter to the Lab Manager at least 2 weeks in advance so alternatives can be arranged.

Please note that no lab make-ups will be allowed during the week prior to a holiday, and for school-unrelated activities.

TIDE POOLS FIELD TRIP (OPTIONAL)

This project is designed to provide you with an opportunity to explore the marine (intertidal) environment, observe animals and plants from a diverse array of phyla/divisions, and learn how animals and plants adapt and interact with each other and their environment. We will go to the beach located between the *Royal Palms State Beach* and *Point Fermin Park* in San Pedro. All the necessary information regarding this field trip will be posted on Blackboard (<https://blackboard.usc.edu/>) at the beginning of the semester.

BIODIVERSITY CONSERVATION PRESENTATION

Detailed instructions for preparing your presentation, including how points will be assigned, will be provided on Blackboard (<https://blackboard.usc.edu/>).

LAB SCORES

You can find scores for all of your lab assignments on Blackboard: <https://blackboard.usc.edu>. Your lab scores will be posted under your **LAB SECTION**. Be sure to check for additional postings on a regular basis. It is the student's responsibility to immediately notify his/her Lab Instructor or Lab Manager in the event of any mistakes, so please check your Blackboard scores weekly.

LAB SCORE NORMALIZATION

The lab scores will be normalized at the end of the semester by the Lab Manager to correct for differences in grading between Lab Instructors (TAs). In this procedure, the mean total score of all students in each lab instructor's lab section is compared to the mean total score of the entire class and each student's score is adjusted.

STUDENTS WITH DISABILITIES

Students requesting academic accommodations based on a disability are required to register with the Office of Disability Services and Programs (DSP) each semester. A letter of verification for approved

accommodations can be obtained from DSP. Be sure that the letter is delivered to the Laboratory Manager as early in the semester as possible, [preferably by January 26, 2018](#). DSP is located in GFS 120 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. Their telephone number is 213-740-0776. If a student's approved accommodation is limited to extra time on examinations, the teaching staff of BISC 120 will provide the accommodation. For any other accommodation, such as a private room, reader or a scribe, students must make prior arrangements with the DSP office 2 weeks before the exam date. For more information please visit the following website: http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.