ELEMENTS OF BIOLOGY LABORATORY
BIOLOGY 101L – SECTION ___
FALL SEMESTER 2017

Instructor: _____
Office: _____
Phone number: _____
E-mail Address: _____
Office hours: _____
Class location: McCarthy Hall _____
Class time: _____
Biology Dept. Phone: (657) 278 - 3614

Biology 101L Coordinator:
Dr. Carol Chaffee, MH-207H
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Required Supplies: Elements of Biology Laboratory Manual (Titan Bookstore). Houtman, Anne and Michele Garden (find on bookstore shelves under author's last name: HOUTMAN)

Recommended: Bio 101 textbook (or another recent introductory biology textbook): Phelan, Jay. 2015. *What Is Life? A Guide to Biology with Physiology,* 3rd edition. New York City: W.H. Freeman and Co.

Biology 101L General Course Information

Course Description:
BIOLOGY 101L offers a hands-on laboratory experience demonstrating the process of science and the principles presented in the associated lecture course (Biology 101). Evolution, genetics, cell structure and function, physiology and ecology are the main topics covered in this course.

Course Objectives:
In order to meet the General Education objectives for Area B.3: Scientific Inquiry Lab Experience, we will introduce you to biology as a body of knowledge, AND biology as a process and way of knowing. For most of you, this will be the last time in your life you will be in a scientific laboratory. The laboratory experience is intended to instill in you, through hands-on activities, an appreciation for and an understanding of biology, the science of life. It is the goal of the course to provide you with the information and skills you will need to better assess the costs and benefits of science and technology for yourself and for society in general. You should be aware that you may be working with live animals. It is expected that you will treat all living things with care, concern and respect.

Biology 101L is a General Education course:

1. Biology 101L meets the requirements for Area B.3: Scientific Inquiry Lab Experience.
2. The core learning objectives for Area B.3 are:
   a. Understand the nature of scientific inquiry and the unique way that the natural sciences and mathematics describe the universe.
   b. Evaluate the validity and limitations of theories and scientific claims in interpreting experimental results.
   c. Understand the dynamic and evolving nature of the sciences.
   d. Recognize the importance of scientific paradigms and methods in understanding scientific concepts.
   e. Use quantitative techniques and scientific reasoning to investigate problems and phenomena in the natural universe.
   f. Understand the potential limits of scientific endeavors and the value systems and ethics associated with human inquiry.

g. Understand different types of uncertainty and its impact on scientific methodology and reasoning.
h. Analyze and manipulate graphical representations of data.
i. Formulate and evaluate hypotheses using quantitative techniques.
j. Use statistical techniques to evaluate uncertainty in experimental data.
k. Apply scientific methodology through active experimental methods and experiences (laboratory/activity).
l. Evaluate the validity and limitations of theories and scientific claims in interpreting experimental results.

Prerequisites and requirements for Biology 101L:
Completion or co-enrollment in Biology 101 (or equivalent). Three hours of laboratory or fieldwork per week and two field trips (one during class time and one on your own time) are required. Completion of this course fulfills the General Education requirement of a one-unit laboratory course in Area B.3. To receive General Education credit, you must elect the letter grade option. Biology 101L does NOT count toward the biology major.

Attendance:
Regular attendance is required by university regulations. The purpose of all lab courses is to give you experience actually *doing* science. Therefore, attendance is a significant component of your course grade, and it will be difficult to succeed in the course if you miss class often. **Early departures from lab or non-participatory behavior such as the use of cell phones or other electronic devices during lab hours will result in a loss of the points available for that lab.**

Make-up Policy
Absences are sometimes unavoidable for school-related activities, such as for university athletics, arts, or conference presentations, and emergency situations can also arise. Because the equipment and materials in lab change each week, make-ups are only possible during the same week you miss your regular lab. There are also only a very limited number of make-up spots available, due to fire code regulations that strictly limit the number of students who may attend each lab. While every effort will be made for you to attend a make-up when you have a legitimate reason for missing your regular lab, please realize that it will not be possible in all cases. **Except for extraordinarily rare circumstances, job schedules, vacations, and social activities are NOT legitimate reasons for missing lab, and no make-up will be permitted.**

As soon as you know that you will be missing a lab period for any reason:

1. Email your instructor that you will miss lab.
2. To request permission to attend a make-up: *(Detailed instructions are on Titanium)*
   a. Use the Titanium link to submit a request with the days & times you are available for a make-up.
   b. Email Dr. Chaffee, the course coordinator, appropriate documentation explaining your reason for missing your regular lab period. Full details on acceptable documentation are provided on Titanium.
3. Make sure to check your CSUF email for Dr. Chaffee's response to your make-up request. **You will only be allowed to attend a make-up session if you have been granted permission.**

Academic Integrity:
University policy states that any form of academic dishonesty is grounds for failure of the course and possible dismissal from the university. The Dean of Students has complete details on this policy, including tutorials to help you understand your rights, responsibilities, and tips for ensuring your work meets the academic integrity standards: http://www.fullerton.edu/integrity. For more information on the Universities academic dishonesty policy contact the Dean of Students Office, Judicial Affairs at (657) 278-3211.

In this class, you are expected to do your own work. Specifically, you are not allowed to:

* utilize the work of someone else and claim it as your own
* copy another person's answers on any assignments, including pre-labs, lab manual entries, worksheets, module synthesis questions, and other assignments.

Your instructor is **required** to give you a zero on any assignment where you have violated the academic integrity policy. Discussion of homework questions may be helpful to Biology 101 Lab students and is encouraged. However, you will be penalized if the answers on your homework are exactly the same as

those of another student in your class. The penalty applies to the person who allows their paper to be copied as well as to the person who copies the work. Further incidents will lead to an F in the course and/or university expulsion. All incidents of cheating will be reported to the Biology 101L Coordinator, and to the Chair of the Biological Science Department. Where appropriate, this information will be forwarded to the Vice President for Student Affairs, in which case a report of the incident is appended to your file. Our expectation is that all assignments will be completed independently and referenced appropriately.

Citing Your Work and Giving Credit Where it Is Due:
Several of your written assignments this semester will have written information in them that will need to be cited properly. Your instructor will give you more details on this during class, and there is an appendix in your lab manual with guidelines on correctly citing sources.

IMPORTANT NOTE:
Use of cell phones and other electronic devices during Bio 101L class time is strictly forbidden.

Accommodations for Special Needs: Students with documented learning disabilities should provide their accommodation letter to their instructor and the course coordinator during the first week of classes. We will work with you to ensure that you have the best possible learning experience.

Brief Explanation of Assignments

The required text for this class is the Bio 101L manual which must be purchased in the Titan Bookstore. **You must have your lab manual with you at each class meeting starting with week #2. You will lose points if you do not have your lab manual with you starting in week #2.**

Note regarding assignments on Titanium: Both pre-lab assignments and module synthesis questions are completed on Titanium. Make sure to note that these assignments MUST be submitted in Titanium prior to the start of your lab the day they are due. Computers are extremely precise about time, so, if your lab starts at 8:30am, you will not be able to submit your assignment once the clock hits 8:30am. **You should therefore make sure that you do NOT wait until the last minute to submit these assignments.**

Pre-lab Assignments:
Almost every week, you must complete a pre-lab assignment on Titanium that is due at the start of your lab period. The goal of these assignments is to review the key topics for the activities you will be performing in lab. These assignments are structured to allow you multiple attempts, although there is a point penalty assessed for guessing. There will usually be time at the end of each lab meeting to work on these assignments, and quite possibly finish before leaving. There are textbooks, computers with internet access and, most importantly, your knowledgeable instructor, to help you complete each assignment. Bringing your Biology 101 lecture notes to class will also be helpful. When working on pre-lab assignments, you may use your own laptop or tablet.

Laboratory Manual Entries:
You will record observations, questions, hypotheses, your experimental methods and results during each lab meeting. Your instructor will check and stamp your lab manual entries before you leave class each day. You will submit all of your stamped lab manual pages **at the beginning** of the lab period after the end of the module.

Module Synthesis Questions:
At the end of the first four research modules, you will need to answer a few synthesis questions on Titanium. These synthesis questions are due at the start of the lab period after the end of the module. As with pre-lab assignments, you will often have time at the end of a module to work on these questions before leaving lab.

Ecology Field Trips:
You are required to participate in two field trips. One of the field trips (a 30-minute drive from the campus) is to Irvine Regional Park during class time. The other field trip will be a self-guided trip to the Fullerton Arboretum on your own time, during which time you will complete a worksheet that you will later submit to your instructor. Your field trip grade at Irvine Regional Park will be based on punctual attendance and participation, a worksheet, and a mini-presentation (2 minutes) on a selected plant or animal. Your instructor will provide further information regarding these trips a few weeks into the semester. Students in evening/night labs will be given an opportunity to attend the Irvine Park field trip during a daytime lab section of their choosing.

Grading Breakdown

Assignments	Points	Percent
Pre-lab Assignments • 15 points each (3%) • 12 assignments	**180**	**32%**
Lab Activities	**190**	**33%**
Cells (3 classes)	30	
Genetics (3 classes)	30	
Evolution (4 classes)	40	
Ecology (2 classes)	20	
Arboretum Worksheet	25	
Irvine Park Worksheet	25	
Plant/Animal Presentation	10	
Physiology (1 class)	10	
Module Synthesis	**200**	**35%**
Cell Module	40	
Genetics Module	40	
Evolution Module	40	
Ecology Module	40	
Physiology Experimental Design	15	
Physiology Presentation	25	
TOTAL	**570**	**100%**

Important Notes:

- Titanium will not allow submission of pre-lab assignments, or module synthesis questions after the start of your lab period on the day they are due.
- Both worksheets and lab manual pages must be submitted at the beginning of the lab period they are due to be considered on time. Once the lab activity for the day has started, these assignments will be considered late.
- No credit will be given for any assignment after one week.
- **Late worksheets or lab manual pages are accepted with a 50% deduction in points.** *Absolutely no late assignments will be accepted for the Physiology module, since all lab manual pages are graded during class.*
- If you are absent from a lab, you **cannot** get credit for that lab. Instructions for requesting a make-up lab are given above, and posted on Titanium. **Only** students who have been granted permission for a make-up will receive credit.

Re-Grading: If you feel that a mistake has been made in the grading of an assignment, please contact your instructor **no later than the next lab meeting** after the grade has been posted on Titanium or the assignment returned to you. No changes to any grades will be permitted after a grade has been posted on Titanium for one week.

Grades will be assigned according to the following percentage breakdown. Please refer to the grading policy section in your Class Schedule where all the campus policies are clarified. All percentages are automatically rounded to the

nearest whole number in Titanium. *Please note that Titanium occasionally displays one letter grade lower due to rounding, but the correct letter grade will be assigned before submitting to the registrar.*

Grade	Percentage
A	93 – 100%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77 – 79%
C	73 – 76%
C-	70 – 72%
D+	67 – 69%
D	63 – 66%
D-	60 – 62%
F	0 – 59%

E-Mail Etiquette: E-mail is considered an official method for communication for this course; as such you are expected to check your official University e-mail regularly. You should also expect a response to e-mail during normal waking hours, Monday through Friday with an approximate 24-48 hour lag time, often with a response coming sooner. Unless otherwise specified, e-mail may not be checked and/or responded to over the weekend. If you do not receive a response within a timely manner, resend your e-mail (it may not have gone through or may have been filtered into the junk folder) or talk to the instructor when you next see him/her.

CLASSROOM SAFETY BRIEFING

- In the event of an emergency such as earthquake or fire:
  - Take all your personal belongings and leave the classroom (or lab). Use the stairways located at the east, west, or center of the building.
  - Do not use the elevator. They may not be working once the alarm sounds.
  - Go to the lawn area towards Nutwood Avenue. Stay with class members for further instruction.
  - For additional information on exits, fire alarms and telephones, **Building Evacuation Maps** are located near each elevator.
  - Anyone who may have difficulty evacuating the building, please see me after class.
- Dial 911 on any campus phone, pay phone, or blue emergency phones to connect directly to University Police. Dialing 911 on your cell phone will connect with the Highway Patrol. Tell CHP dispatcher that CSUF Police are the responding agency. Stay on the line until asked to hang up.
- If you want to bring visitors to the classroom, you must obtain permission from the instructor in advance and must sign a volunteer form.
- Visitors to the lab must obtain permission from the Chair and must sign a volunteer form.
- There is no smoking within 20 feet of every campus building. This includes the MH balcony.
- **FOR LAB CLASSES:** Specific hazards or risks in the lab will be discussed prior to each experiment. If you have any questions about the safety of an experiment, please contact the lab instructor.
  - If there is a spill of a hazardous chemical, notify your instructor immediately.
  - Report all injuries to the instructor immediately.
  - All students must read and sign the departmental, “Laboratory safety procedures” form at the beginning of each semester.
- **FOR CLASSES WITH FIELD TRIPS:**
  - Make sure you submit an Academic Field Trip Waiver and sign the Participant List for each field trip.
  - Students must comply with all State laws regarding possession, sale and use of alcohol or controlled substances while participating in CSUF related activities.