

Biology 101L Syllabus: Spring 2020

Sections 401-428; Coker Hall (Rooms 207, 208, and 209)

Laboratory Coordinator

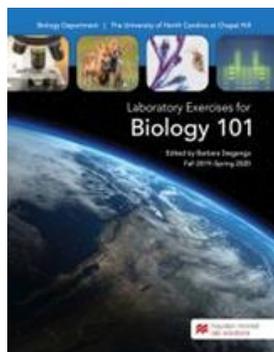
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Course Overview

This lab is intended to reinforce the topics covered in the lecture course and to expose you to collaboration and writing in the sciences. Through hypothesis testing, data collection, and discovery, the course focuses on interpretation of data and thinking critically. You will be expected to write reports that apply methods learned in lab to test hypotheses. You will learn to think scientifically through observations and experimentation.

Required Lab Manual

Laboratory Exercises for Biology 101, *Barbara Stegenga*. Available in Student Stores. The lab manual is needed for the first lab as you will be doing a lab activity on the first day. No check-in is required.

Course Format

The lab meets weekly for 2 hours and 50 minutes. Two experiments will be performed that require writing a lab report. A progression of steps to help write a full report include writing an outline, a partial draft report, and peer critique of the draft. In addition, you will write an essay after making observations in lab, work on case studies with other students, write procedural outlines and take quizzes to prepare you for the lab activities.

Course Goals and Learning Objectives

Participating in this lab will enable you to:

1. Take empirical measurements using appropriate apparatus.
2. Generate and test hypotheses.
3. Gather, store and organize data.
4. Analyze and report on data and hypothesis testing.

Regulations

Attendance: Instructions and demonstrations begin on time. It is expected that you read through the lab activities in the lab manual before coming to lab, so you are better prepared to work on the assignments and take the quizzes.

You must be excused by your lab instructor within 48 hours of any absence. Permission to make up the lab missed is granted for:

1. Your own illness, or illness or death in your family with a written note from you.
2. Official university function with written excuse from the official in charge.

If you know you have to miss a lab, you should immediately contact your TA (you should write down your TAs email as soon as you get it in lab). Do not assume an email has been received unless you receive a reply. You may only attend another lab to make up the one you missed if your TA has excused you. An **unexcused** lab deducts 10 points from your final grade and counts as a zero on any missed work.

Safety: For safety reasons absolutely **NO FOOD or DRINK** is permitted in the laboratory rooms. Some lab exercises use dyes, stains and chemicals that might damage clothing. Pay attention to the lab you are doing each week so that you wear the appropriate clothing. You are encouraged to wear closed shoes. No visitors are allowed in the lab.

Laboratory Grading

All written assignments (see the lab schedule with assignments and points) are turned in to and graded by the TAs. Each of these written assignments is to be your own creative work and no collaboration outside of lab in writing these is allowed. Students do a peer review of the Photosynthesis draft that the TA then collects and grades. Drafts that are revised and graded are handed back to the student for use in writing the lab reports. Lab reports are to be no more than 10 pages of text in length and no less than 5 pages of text. The outlines should be 1-2 pages in length and the draft should be 2-3 pages in length. All written assignments are typed and include the Honor Code Pledge. The lab TAs grade lab reports from other sections to rule out any biasness.



Your grade will be determined by tests, daily grades, grades on lab reports and on cleanup/group participation. All tests are cumulative. Extra credit assignments are not allowed. If you are having trouble with assignments during lab, talk to your instructor first. You may also use tutoring services on campus for understanding concepts and the **Writing Center** for help with your written assignments. The Writing Center offers help with writing your lab report, however, they can get very full with appointments. They are

unable to address the science but can give you feedback on the formatting and presentation of the content.

Two quizzes (before Photosynthesis and Enzymes lab begins) will be given to make sure you have read and prepared for the scheduled experiment. The oral quiz given during the Mammalian Anatomy lab requires you to identify the internal anatomy of a dissected pig. You have two minutes to identify four parts. The other assignments due during the semester are written assignments. Any assignment that is turned in late will have 10% of the value deducted for each day it is late. Grades are no longer negotiable as of the final exam day. Computer problems are not acceptable excuses for late work, therefore, you should always save your work frequently and in more than one location. Do not wait until the last minute to print your work.

Grade Appeals

Any grading concerns (appeals) must be submitted within a week after the assignment is handed back in lab. The appeal must be typed and attached to the original assignment when turned in to the TA. Appeals do not guarantee points back, but the grading TA will go over your comments.

Grades are determined based on the combined averages of all sections. The grade seen on Sakai is not accurate as it does not factor in the section averages. The total number of points you can earn for the course is 150.

Lab Reports: Lab reports are based on experiments performed in lab and should be written completely in your own words. Quotations should be cited. Reports should be comprehensive descriptions of the hypotheses of interest, experimental methods designed to test those hypotheses, results of the experiments, and interpretations of the results. Guidelines for writing a lab report are in the laboratory manual and include:

- Limitation of 10 pages of text exclusive of title page and graphs, charts and tables. Lab reports should not be less than 5 pages of text.
- All text should be double-spaced
- All margins should be 1 inch
- Written in past tense and in paragraph form with the following sections: Introduction, Materials and Methods, Results and Discussion.



To help you write a full scientific lab report, Biology 101 requires you to write an outline (1-2 pages long), a partial draft (2-3 pages long and typed) and critique another student's draft report of the photosynthesis experiment. An outline of the experimental procedure for the enzyme experiment is also required and should be 2-3 pages in length and typed. The outline should be written in standard hierarchical outline format using numbers and letters to identify sections and major points. The partial rough draft of the photosynthesis lab report should include the Introduction and Materials and Methods sections. The partial rough draft will then be critiqued in lab by your lab partners.

Genetics Case Study Presentation: You will work as a group with your lab partners to prepare and present a genetics case study from the lab manual. The assignment requires working outside of lab. Research on the genetic disorder assigned is done by all members of the group and is then presented in lab. Presentations are no longer than ten minutes and require participation by all students in the group.

Adaptation Essay: The writing assignment at the end of the Natural Selection and Adaptation laboratory is to demonstrate your understanding of the mechanisms of adaptation by mutation and natural selection, using examples from the lab. You will explore evolutionary mechanisms in this assignment and turn it in at the end of lab.

Exams: Biology 101L has two exams: a midterm and final. The midterm is one hour and covers material from the first lab through the photosynthesis lab. The final is one and a half hours and covers material from the entire semester, however, more emphasis is on the material after the midterm. Leaving the lab during an exam is not permitted unless excused by the TA. Cell phones and smart watches must remain in the lab if leaving to use the restroom. Exams are practical and the format includes short answer, true/false, multiple choice and calculations.

Studying for the exams: In addition to studying terms throughout the manual and understanding the Learning Outcomes for each lab, it is important to know what you did in lab and why it is important. Ask yourself what was the goal of today's lab? How does it relate to what you studied in lecture? What was the purpose of using specific equipment? Peer tutoring is available in Dey Hall for students struggling with biological concepts.



Gradescope will be used to grade the midterm, essay, lab reports and final exam in this course. It allows for providing consistent feedback to you on assignments quickly.

If your instructor gave you the entry code for the course, you will be able to add yourself as a student. To do this, if you already have a Gradescope account, log into that account and navigate to your **Account Dashboard** by clicking the Gradescope logo in the top left corner, then click **Add Course** in the bottom right corner. If you don't have a Gradescope account yet, go to their [homepage](#), click **Sign Up** in the upper right corner, select Student, and put in your entry code in the sign-up form. If the entry code doesn't work, please email your instructor for details on how to access the course. If you don't have an entry code, your instructor must add you to the course. Once you're added to a course, you'll get an email asking you to set your password if this is your first-time logging into Gradescope or an email with a link to the course if you already have an existing account. If the set password link in this email expires, you can request a new link from the [Reset Password](#) page.

Understanding the UNC Honor Code

The Biology 101 Lab course upholds the Honor Code within the University of North Carolina's Honor System. Academic progress in this course is determined by all graded work, therefore, no collaboration on any written work is allowed. We do encourage students to study together and collaborate on assignments that are not collected for grading or on assignments where permission to collaborate is given (Case Study Presentation). Information about the Honor Code can be found at <https://studentconduct.unc.edu/instrument>.

So that there are no misunderstandings about academic integrity, we have provided examples of honor code violations below. In this course, students often work in pairs or groups to collect data. You should not collaborate on any written assignments after leaving lab. Submitting work from other sources that is not properly referenced is also a violation of academic integrity. All work submitted must be your own independent written work. If you ever have trouble with an assignment, you should see your TA or instructor for help instead of asking help from your peers.



Possible honor code violations:

- Unauthorized collaboration on written assignments – all written work must be your own and written in your own words. Emailing, texting or using any other form of communication to discuss the writing of the assignment is prohibited.
- Plagiarism – practice of taking someone else’s work and passing them off as one’s own
- Cheating – Unauthorized behavior to gain an advantage (as on exams)
- Violation of procedures pertaining to the academic process (providing materials such as lab reports, exams, essays, quizzes and outlines) for others to use

Honor Code Pledge below should be included on the title page of LAB REPORTS.

“I pledge that no unauthorized assistance has been given or received in the completion of this work. Experiments described were performed by me and/or my lab group and this write-up is entirely my own creative work.” Signature: _____

For ALL OTHER WRITTEN ASSIGNMENTS, use the Honor Code pledge below:

“I pledge that I have neither given nor received unauthorized assistance on this assignment and it is entirely my own creative work.” Signature: _____

Copyright Information: All materials used in this course including notes and assignments are covered by copyrights and the University’s Copyright Policy, which can be found at

<http://www.unc.edu/campus/policies/copyright%20policy%2000008319.pdf>

"STUDENT WORKS THAT CONSTITUTE NOTES OF CLASSROOM AND LABORATORY LECTURES AND EXERCISES SHALL NOT BE USED FOR COMMERCIAL PURPOSES BY THE STUDENT GENERATING SUCH NOTES."

Resources



For students who register through **Accessibility Resources and Service (ARS)** <https://ars.unc.edu/> for different types of disabilities, you will be given accommodations such as extended time on exams or help in the lab if needed. Please note that lab exams can only be taken in the lab and not at a specific testing location through ARS. The lab exams have a practical component to them which ARS cannot provide.

The Department of Biology values the perspectives of individuals from all backgrounds reflecting the diversity of our students. We broadly define diversity to include race, gender identity, national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. We strive to make this lab and this department an inclusive space for all students.

Counseling and Psychological Services

CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

Technology Use

Computers are generally not needed in lab, unless you are asked to bring it in to do TA evaluations at the end of the semester. It is not recommended to use a computer in lab because we use chemicals and other liquids that might damage your computer. If you choose to use your laptop, you are expected to use it only for the lab activities, which means no e-mail, no Facebook, no Twitter, no ESPN or any other online social media.

Introduction to Principles of Biology 101 Laboratory Schedule

Spring 2020 (See Complete Lab Syllabus for Laboratory Regulations)

Week	Laboratory Exercise	Assignment Due/Points
Jan 13 - Jan 16	Process of Science, Microbiology & Microscopy	
Jan 20 - Jan 23	NO LABS – HOLIDAY	
Jan 27 – Jan 30	Cells (Eukaryotes), Gram Stain (Appendix)	Outline of Hand Washing Experiment 4pts
Feb 3 – Feb 6	Photosynthesis Analysis	Procedures Outline 2pts Quiz 3pts
Feb 10 – Feb 13	Photosynthesis Experiments	Draft of Intro, Materials & Methods 2pts
Feb 17 – Feb 20	MIDTERM	30pts
Feb 24 – Feb 27	Genetics: The Principles of Mendel & Molecular	Photosynthesis Lab Report 20pts
March 2 – March 5	Natural Selection & Adaptation	Present Case Study 2pts
March 9 – March 13	NO LABS – SPRING BREAK	
March 16 – March 19	Enzymes	Enzymes Procedures Outline 2pts Adaptation Essay 8pts Enzymes Quiz 3pts
March 23 – March 26	Mammalian Anatomy I	Enzyme Lab Report 20pts
March 30 – April 2	Mammalian Anatomy II	Pig Part Quiz (Oral) 4pts
April 6 – April 9	FINAL EXAM	50pts

Lab Times: Mondays & Wednesdays: 9:05am – 12:05pm, 1:25pm – 4:25pm, 5:00pm – 8:00pm

Tuesdays & Thursdays: 9:30am – 12:15pm, 1:00pm – 4:00pm, 5:00pm – 8:00pm

Lab TAs: Each lab is taught by a TA. The teaching assistants will provide their name and email address in lab. TAs will schedule a time to meet with you during the semester, if needed, since they do not have their own offices. Sakai will be used for accessing slides and grades on assignments. The Sakai site is named BIOL101L.SP20 for all lab sections. *The lab coordinator reserves the right to make changes to the syllabus, including assignment due dates and test dates. These changes will be announced as early as possible.*