Hamilton College
Lab for Explorations in Biology
BIO100L-02, 04
Fall 2025

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Office: SCCT 2071
Office Hours: Tuesday 1-2pm and Wednesday 11am-12pm
Lab: SCCT 2076
Lab Hours: Section 02- Tuesday 9am-12pm
Section 04- Thursday 9am-12pm

Course Description:
The Explorations of Biology Lab is designed to give the student hands-on experience in the laboratory and field. Students will engage in a variety of opportunities to develop skills relevant to the scientific method including data collection, data analysis and presentation of results. This lab course is required for students taking BIO100 lecture. The student must be enrolled in both a lab section and a lecture section in the same semester.

Course Objectives
This course is designed to:

1. Help the student develop laboratory skills including keeping an organized and clean workspace, proper use of laboratory equipment, proficiency using micropipettes, making dilutions from stock solutions, and keeping a useful lab notebook
2. Introduce data analysis skills, including basic analysis and Microsoft Excel
3. Foster inquiry-based scientific thinking using application of the scientific method
4. Develop scientific writing skills

Materials

- Lab coat (shared coats are available in the lab or you may bring your own)
- Composition Notebook
- 3-ring binder or folder for lab printouts

Grading
The laboratory grade will be combined with the BIO100 lecture grade at the end of the semester and one final grade for both BIO100 requirements will be awarded.

Assessment	Points
Pre-labs (10 of 11 at 5 points each)	50
Participation (10 of 12 at 5 points each)	50
Notebook Checks (8 at 5 points each)	40
Microscopy Images Assignment	50
Ecology Lab Report Part I	50
Ecology Lab Report Part II	75
DNA Barcoding Poster Presentation	60
Lab Final Exam	125
Total	500

Class Policies

- Attend each lab session. Arrive early and prepared to learn. Attendance will be taken and will constitute a part (but not all) of your Participation grade.
- **Missing more than five lab sessions without documentation will result in a failing grade for the course (lecture and lab).**
- The Participation grade is determined at the Professor's discretion and based on overall class performance.
- Complete required readings and pre-labs and update notebooks before the beginning of each lab session.
- There are no make-ups. If you miss lab, it is your responsibility to get the information from a classmate and/or from Blackboard.
- Late work will not be accepted unless a documented excuse can be provided within one week of the absence.
- Please be considerate and use cell phones and other electronic devices for lab purposes only while class is in session.
- Please show respect for your classmates and your professor.
- The professor is allowed to modify these or make additional policies throughout the semester as she sees fit to ensure students remain safe and are allowed an optimal educational experience.

Class Participation and Discussions
In this course there may be discussions or assignments that some students may find controversial, difficult, or sensitive. Please be considerate and respectful with your comments and remain open minded to the opinions of others that may not match your own. Sometimes the professor or speaker may choose to present contrasting opinions or viewpoints simply to promote and engage in a well-rounded discussion. Do not ever feel that a certain opinion or way of thinking is being forced on you in this course. If at any time you do not feel comfortable with an assignment or discussion in this course, please first communicate your feelings to the professor after which a course of action can be decided upon, if necessary.

48-Hour Pass
To be considerate of your busy schedule, each student will be allowed one 48-hour late pass. When you choose to use your pass, simply put a note in Blackboard in the 48-hour late pass dropbox stating which assignment you will be using your pass for. The late pass cannot be used for the final exam.

Use of AI Tools
Use of any AI tool (e.g. ChatGPT) for this course is strongly discouraged. You may use AI programs to help generate ideas and brainstorm, but you may not use AI programs in place of your own words, thoughts, or ideas (as expressed in any format). It is noteworthy that the material generated by AI programs is often inaccurate, incomplete, biased, or problematic. Use of AI programs also limits your own independent thinking and creativity.

For the purposes of this course, any AI generated work submitted as your own will be considered plagiarism. If you submit material generated by an AI program, it should be cited like any typical reference material (be considerate that AI generated references may be incorrect or nonexistent). Any plagiarism or other form of cheating will be referred to the Honor Court.

Honor Code
It is expected that students will uphold the Honor Code in this course. Collaboration on all assignments except the Lab Final is allowed. Each student must complete assignments in their own words; therefore, each submission shall be unique. Collaboration in this course does not mean handing in the same exact work. Data sets can be identical. Please contact the instructor with any questions or for clarification of a specific action. The Honor Code can be reviewed here: https://www.hamilton.edu/student-handbook/studentconduct/honor-code

On Campus Resources
There are times that each of us may feel overwhelmed, anxious, or depressed. There are many resources available on campus to help and support you:

- Counseling Center (www.hamilton.edu/offices/counselingcenter, 315-859-4340) offers individual and group therapy, peer counselors and psychiatric treatment. If you need immediate assistance, phoning the Counseling Center and selecting option 2 will connect you with a counselor, 24 hours a day, 7 days a week.
- Associate Dean of Students for Student Support, Sarah Solomon (315-859-4600; ssolomon@hamilton.edu)
- Associate Dean of Students for Academics, Adam Van Wynsberghe (315-859-4600; avanwyns@hamilton.edu)
- Your faculty advisor
- Your RA and Area Director in your residence hall

If at any time you feel suicidal or in danger of harming yourself or others, please reach out for support! The Hamilton community cares and is available to help.
Campus Safety is available 24/7 for urgent concerns at 315-859-4000.

Academic Accommodations
Hamilton College will make reasonable accommodations for students with properly documented disabilities. If you are eligible to receive an accommodation(s) and would like to make a formal request for this course, please discuss it with me during the first two weeks of class. You will need to provide Allen Harrison, Assistant Dean for Accessibility Resources (aharriso@hamilton.edu) with appropriate documentation of your disability.

Emergency Preparedness:
In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time. If you are unable to come to class due to illness, we will work together to establish a remote approach to meet your needs. Please contact me as soon as possible to arrange accommodations.

In the event of an evacuation order during class, we will evacuate to the main quad in front of SCCT and await further directions. In the event of a shelter-in-place order during class, we will stay in class until the order is called off. In the event that a shelter-in-place order is in effect when class starts, class will be cancelled for the day.

Note from the Instructor
If at any time throughout the semester circumstances arise that prevent you from performing as you normally would in this course, please email or speak to me privately and we will figure it out. I want to see everyone succeed in this course and their program. I am happy to work with anyone having extenuating circumstances. My two requests are that you please:

1) Notify me! I can't help you if I don't know about your situation. Please let me know before or during a hardship. Do not wait until the end of the semester because at that point there is little I can do to help.

2) Please don't take advantage.

I also hold myself to very high standards as an instructor, including rapid responses to student inquiries, grading within two weeks of due dates and overall support of the student experience. If at any time a life event prevents me from properly leading this course, I will be sure to let you know as soon as I can.

Over the course of the semester if anyone just needs to talk about their circumstances/stress/anxiety/etc., I am here for you.

Thank you all in advance for your perseverance and thoughtfulness towards others in the course.

Please feel free to contact me at any time throughout the semester with questions, problems, concerns, etc. I am here to help you succeed. If you show up, pay attention, hand in assignments on time, and work hard, you will most likely pass this course. Motivation, hard work and a positive attitude are the keys to success in this course.

Fall 2025 Calendar
(subject to change)

Date	Lab	Assignments Due
Unit 1: Ecology and Biodiversity		
Sept. 2 or 4	Nature Observation, Introduction To Citizen Science	
Sept. 9 or 11	Field Sampling, Aquatic Ecology I	Pre-lab 1
Sept. 16 or 18	Aquatic Ecology II, Lab Safety, Lab Notebooks, Writing a Lab Report	Pre-lab 2
Unit 2: Laboratory Techniques and Scientific Writing		
Sept. 23 or 25	Introduction to DataClassroom, Introduction to Laboratory Techniques	Pre-lab 3 1st in class notebook check
Sept. 30 or Oct. 2	Statistics in DataClassroom, Peer Review	Pre-lab 4 **Ecology Lab Part I Due Mon. 11:59pm**
Oct. 7 or 9	Microscopy and Macroinvertebrate Identification	Pre-lab 5
Oct. 14 or 16	No Labs- Fall Recess	
Unit 3: Exploring the Genome		
Oct. 21 or 23	Plant DNA Extraction, PCR Set-Up	Pre-lab 6 **Microscopy Images Due Fri. 11:59pm**
Oct. 28 or 30	PCR Purification and Visualization	Pre-lab 7 **Ecology Lab Part II Due Fri. 11:59pm**
Nov. 4 or 6	Transformation	Pre-lab 8
Nov. 11 or 13	Plasmid Extraction, Nano-Drop, Send for Sequencing	Pre-lab 9
Nov. 18 or 20	Bioinformatics, Phylogenetics, Poster Prep	Pre-lab 10
Unit 4: Content Applications		
Nov. 25 or 27	No Labs- Thanksgiving Recess	
Dec. 2 or 4	**Poster/Phylogeny Presentations**	
Dec. 9 or 11	**Lab Final Exam**	