

BIOL 1107L: Principles of Biology Laboratory I (0-3-1)
Valdosta State University, Biology Department, College of Science & Math
Spring 2023: Laboratory Syllabus

Instructor: Dr. John G. Phillips (he/him)
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Office (Student) hours: **Tuesdays 1:45 PM – 2:45 PM** **Wednesday 2:30 PM – 3:30 PM**
Or by appointment (please send an email to my valdosta.edu account with “appointment” in the subject line and I will accommodate as time permits).

Laboratory Sections: **B (CRN # 24669): Tuesdays** 9:30am–12:20pm – **BC 1083**
 E (CRN # 25091): Thursdays 9:30am–12:20pm – **BC 1083**

Pre- or Corequisite: BIOL 1107: Unifying Principles of Biology I.

***A grade of C or higher is required in both lecture and lab!**

****Lecture and Lab are separate. Success or failure in one does not guarantee the same result in the other**

Course Description: A laboratory course to accompany BIOL 1107 lecture, with exercises dealing with the cellular nature of life.

Required Laboratory Manual: R. H. Goddard. Methods and Investigations in Basic Biology (custom VSU manual). 6th Edition.

Required Laboratory Notebook & Brief Instructions: A dedicated bound notebook (e.g., “mead composition notebook”) must be maintained for deposition of each laboratory exercise following the guidelines in the above lab manual (see introduction for details). **Students must include** a table of contents with numbered pages for each lab exercise. In addition, each lab entry in the dedicated notebook must provide a title, introduction, materials and methods, results in the form of collected data (i.e., Tables) or drawings and graphs (i.e., Figures). This is followed by a summary of what principles or hypotheses were learned through experimentation in the conclusion of each laboratory entry. More instructions will be provided by your instructor but note this notebook must always be present with you during lab sessions for data collection and inspection by your instructor.

Course Objectives: Upon completion of this course the student should be able to:

1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in written formats used in peer-reviewed journals.
2. Understand basic biological chemistry from elements to organic compounds to macromolecules.
3. Demonstrate an understanding of the cellular basis of life.
4. Relate the structure and the function of DNA/RNA to the development of form and function of the organism and to heredity
5. Understand energy transformation in biological systems through the study of photosynthesis and other metabolic reactions

Laboratory Assignments and Grading: Students will be graded on their performance in the laboratory based on participation, quizzes, lab reports, and other assignments as specified by your instructor. **UNLESS OTHERWISE SPECIFIED, ALL QUIZZES AND ASSIGNMENTS WILL BE DUE AT THE START OF THE FOLLOWING CLASS.** All late assignments will be subject to a 10% penalty per day late

1. **Lab Quizzes or Assignments (50%):** You will complete and submit a weekly lab quiz or assignment that will demonstrate your mastery of the skills that you developed in the lab. These quizzes and assignments will be administered through Blazeview. Unless otherwise specified, these assignments are still required for students who have excused absences (although due dates may be altered at the professor's discretion).
2. **Lab Reports (30%):** Throughout the semester, students will learn how to develop and complete an experiment and write a summary of the lab results in standard scientific format. Further information will be provided in lab.
3. **Lab Notebook (10%):** A laboratory notebook is an important element for conducting scientific research. Each student will maintain a lab notebook for recording methods employed in the experiment as well as the experimental results. Students are **required** to have their notebook at every lab class.
4. **Group Participation (10%):** You will be graded on your attendance and ability to work with the members of your group. You must be present for the **entire lab** to receive full credit for group participation.

Attendance Policy: Students arriving late to lab or leaving early may be counted as present, but the student must discuss the absence with the professor that day after/during/before class. Absences resulting in >20% of missed laboratory time (i.e., three labs) may result in an automatic grade of F as per University policy. Full absence regulations are available in the online catalog at <http://catalog.valdosta.edu/undergraduate/academic-affairs/>

Lab Conduct:

1. Please arrive on time. If you are more than 20 minutes late without clearing it with me, you will not receive credit for participating in that lab.
2. Please bring your notebook to the lab each week and record data in your notebook.
3. **No eating or drinking in the lab.**
4. You must take care of lab equipment. Notify the professor if something is not working properly or if something breaks during the lab. It is your responsibility to properly use the equipment assigned to your seat position. Please notify the professor if equipment is not functioning properly.
5. Cell phones are not to be used in the lab. **This means no texting during the lab unless I give permission for cell phones to be out.**
6. A laboratory course is a collaborative effort. You will often work with your lab group or a lab partner. Please be prepared for the lab each week and be fully engaged in the lab experiments.

Academic Integrity: By taking this course, you agree that all required course work may be subject to submission for textual similarity review to Turnitin, a tool within Blazeview.

Mid-term, or in-progress grades: The instructor is required to submit in-progress grades prior to mid-term (**March 2nd, 2023**). In theory, a mid-term grade is necessary for students to assess how they are doing in class by midterm. In this course, students will have feedback on several lab quizzes, lab assignments, and any homework or group assignments. Students will be assigned an overall average grade at this point on the normal scale of A-F viewable on Banner. Students receiving a grade of "D" or lower should therefore carefully evaluate their option of dropping this course by midterm without academic penalty. The deadline for withdrawal is listed in Banner about a week later. *NOTE: Some significant graded components for this class won't be due until after mid-term grades are submitted. Therefore, poor performers will have the ability to improve upon these grades, while high performers are ill-advised to rest upon their laurels.

LABORATORY SCHEDULE (tentative per professor's discretion)

Week	Date	Topic
1	Jan. 9–12	Syllabus and Course Introduction
2	Jan. 16–19	MLK Week- NO LABS
3	Jan. 23–26	Exercise 2: Basic Light Microscopy (and what is a lab report?)
4	Jan. 30 – Feb. 2	Exercise 3: Microscopy of Living Organisms (write methods)
5	Feb. 6–9	Exercise 1: Introduction to the Scientific Method and Primary Scientific Literature (PSL) – MEET IN COMPUTER LAB
6	Feb. 13–16	Exercise 5: Cellular Water Relations (write results)
7	Feb. 20–23	Handout: Biochemical Spectroscopy (write introduction)
8	Feb. 27–Mar. 2	Exercise 6: Protein Extraction & Quantification from Living Tissues (write discussion)
9	Mar. 6–9	Exercise 7: Enzymology Lab: Basics of Amylase Enzyme Activity (FULL LAB REPORT)
10	Mar. 13–16	Spring Break – NO LABS
11	Mar. 20–23	Exercise 8: Photosynthesis: submit lab report 1 for enzyme activity lab
12	Mar. 27–30	Exercise 9: Cell Reproduction: Mitosis, Meiosis and Cytokinesis
13	Apr. 3–6	Exercise 10: Handout: Paternity and Gel Electrophoresis (FULL LAB REPORT)
14	Apr. 10–13	Exercise 11: Handout: Bioinformatics Lab
15	Apr	

COVID-19 related policy: As the Blazer Creed articulates, members of the VSU community are expected to live by the high standards of civility, integrity, and citizenship and embrace their responsibility as a member of the Blazer community. In recognition of this responsibility, and in response to the best available science and current guidance from the Centers for Disease Control and Prevention and the Georgia Department of Public Health, while face coverings are no longer required, individuals are strongly encouraged to continue wearing a face covering indoors. **Unvaccinated individuals are strongly encouraged to get vaccinated. Vaccines remain available at no cost for all members of the university community by appointment at Student Health Services. For COVID Vaccines, please call ahead for an appointment at 229-333-5886.**

Campus Gun Carry Statement (HB 280): If you choose to carry and concealed weapon on campus, you are responsible for knowing and following the law. Refer here for FAQ: valdosta.edu/administration/finance-admin/police/campuscarry/

General Silliness: While I would be overjoyed if every student would read this far into the syllabus, I expect the majority of you will not. Therefore, I will give one bonus point to any student who randomly emails me an awesome photo of their favorite organism (animal, plant, fungi, etc.) within the first two weeks of class. With the scientific name of said organism in the subject line.

SOI Statement: At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available through SmartEvals. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators, and they will be able to access results only after they have submitted final grades. Before final grade submission, instructors will not be able to see any responses, but they can see the percentage of students who have or have not completed their SOIs. While instructors will not be able to see student names, an automated system will send a reminder email to those who have yet to complete their SOIs. Students who withdraw or drop a course will also be sent invitations to complete the Dropped Course Survey. Complete information about the SOIs, including how to access the survey, is available on the SOI Procedures webpage.