

Valdosta State University
Biology Department
BIOL 1107: Unifying Principles of Biology I
Laboratory Syllabus, Spring 2020

Instructor: Dr. Erin Grabarczyk
Office: Bailey Science Center (BSC) 2212
Office Hours: M 8:30 – 9:30 AM, T 8:20 – 9:20 AM, or by appointment
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Lab Time: Tuesday at 9:30 AM – 12:20 PM in BSC Room 1083

Required Textbook: Goddard, RH. Methods and Investigations in Basic Biology. 6th edition.

Required Laboratory Notebook & Brief Instructions: A dedicated 3-ring or spiral or bound notebook must be maintained for each laboratory exercise following the guidelines in the above lab manual. 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 **an introduction** with predictions and a testable hypothesis, **results** in the form of collected data (i.e. Tables) or drawings and graphs (i.e. Figures). This is followed by **one short paragraph summarizing** 1) what you found/learned through experimentation and 2) whether or not your hypotheses or predictions were supported. More instructions will be provided by your instructor during lab, but please note that your notebook must always be present with you during lab sessions for data collection and inspection by your instructor.

BIOL 1107L. Principles of Biology Laboratory 1. 1 Hour.

Pre- or Co-requisite: **BIOL 1107**. A laboratory course to accompany **BIOL 1107**, with exercises dealing with the cellular nature of life.

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

- 1) Exhibit a broad perspective on the principles unifying various biological disciplines from evolution to molecular biology (DBEO 2 & 5);
- 2) Understand basic biological chemistry from elements to organic compounds to macromolecules;
- 3) Comprehend basic principles of biology at the cellular level to include structure, function, metabolism, communication, reproduction, molecular biology, and gene expression (DBEO 3 & 4);
- 4) Perform, analyze, interpret, and report laboratory experiments (DBEO 1);
- 5) Develop and test a hypothesis using experimental microscopy and quantitative skills acquired in the laboratory (DBEO 1 & 5).

These objectives support the Department of Biology Educational Outcomes # 1-5 listed above (DBEO 1-5) and the University General Educational Outcomes # 5 as listed in the VSU Undergraduate Catalogue.

Class Policies

- **Classroom etiquette:** Please be on time. Please turn off your cell phone. Do not talk while I am talking. If you have a question, raise your hand and ask me the question. If you are disrupting the class, I will ask you to leave. Do not use the internet in class unless the lab requires it. Do not start the labs until I have asked you to do so.
- **Ask questions:** If you have a question or don't understand something please let me know. I am more than willing to take as much time as necessary to help you understand a concept, but you have to let me know.
- **Late work:** Once during the semester you may turn in late work for full credit. I will give you 24 hours to submit your work. Your assignment needs to be emailed to me, turned into my mailbox in the biology office, or submitted on BlazeVIEW.
- **Email etiquette:** Please use your VSU account for e-mail communication. Include a relevant subject title, greeting, and closing. Refer to this website for additional tips on how to construct a professional e-mail: <http://www.netmanners.com/e-mail-etiquette-tips/>
- **Lab completion:** You must complete every lab in full.

- **Cheating:** You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate Catalogs that pertain to Academic Honesty. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. [The policies can be found at <http://valdosta.edu> under Student Code of Conduct.] If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Conduct. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with your instructor if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test. All forms of academic dishonesty including, but not limited to collusion, fabrication, cheating and plagiarism are worthy of punishment according to the policy set forth by Valdosta State University. This includes doing your own work on lab assignments. While you are allowed to brainstorm with each other, it is expected that your answers are your own. **I will not tolerate any form of cheating.**

Academic conduct: All students are held responsible for reviewing, understanding, and following the VSU Student Code of Conduct. The Student Code of Conduct can be found on this website:

<https://www.valdosta.edu/administration/student-affairs/student-conduct-office/student-handbook.php>

Laboratory Grading: The laboratory course schedule and grading is found in the table below. Your laboratory grade is computed as a percentage of your total points (x) from the total possible (y), where $(x/y) \times 100 =$ laboratory percentage. Use the empty third row in the table to keep track of your individual points and lab percentage at any point in the semester. Quizzes are given weekly at the beginning of lab during the first 10 minutes. You will have only the time allotted at the beginning of lab to take the quiz. Additional graded assignments are listed in the above Laboratory Exercises as A1-A3 along with a short description. Notebook checks are listed thrice during the semester and are performed either during class time as indicated or at the discretion of your instructor(s) in or outside of laboratory time (e.g. collected by your instructor for grading and return).

Attendance Policy: Students arriving late to lab will be counted as present but will receive a zero for the lab quiz. However, you must sign and date your quiz indicating you were late or you will be considered absent. Absences resulting in >20% of missed laboratory time (i.e. 3 labs) will result in an automatic grade of F as per University policy. **No make-up labs or quizzes are allowed.** The full absence regulations are available in the online catalog at <http://catalog.valdosta.edu/undergraduate/academic-affairs/>

Mid-term, or in-progress grades: The instructor is required to submit in-progress grades prior to mid-term (10/09/2019). In theory, a mid-term grade is necessary for a student to assess how s/he is doing in class by midterm. In this course, students will have feedback on several lab quizzes, lab assignments, and any homework or group assignments. I will, in general, assign 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 through Banner is **October 17, 2019**.

Students with disabilities: Students requiring classroom or testing accommodations because of documented disabilities should discuss their needs with the instructor at the beginning of the semester. Students not registered must contact the Access Office, Farber Hall, Phone; 245-2498. Website: <http://www.valdosta.edu/access/>

Title IX Statement: Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: the Director of the Office of Social Equity, titleix@valdosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31698, 229-333-5463.

Privacy Act (FERPA): The Family Educational Rights and Privacy Act (FERPA) prohibit the public posting of grades by social security number or in any manner personally identifiable to the individual student. No grades can be given by email or over the telephone, as positive identification can not be made by this manner. Grades will be

posted through BlazeView course website.

Biology Tutoring: The Academic Success Center (ASC) at Valdosta State University is located in the Odum Library and is available to all students. The ASC provides free peer tutoring in core curriculum courses, including biology, chemistry, math, writing, and foreign languages. The SSC also provides free professional academic advising and on-campus job information in one location. Call 333-7570 to make an appointment, or visit the website: www.valdosta.edu/asc.

Access Office: Students requesting classroom accommodations or modifications due to a documented disability must contact the Access Office for Students with Disabilities located in the Farber Hall. The phone numbers are 245-2498 (VVP) and 219-1348 (TTY) or visit the website or email access@valdosta.edu.

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: <https://www.valdosta.edu/administration/finance-admin/police/campuscarry/>

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.

Regarding your lab grade:

*Quizzes are given weekly at the beginning of lab during the first 20 minutes. You will have only the time allotted at the beginning of lab to take the quiz. **There are no make-up quizzes.**

*There will be two notebook checks during the semester.

*Participation (3 points per lab) is awarded based on continuous effort of the student as observed by the instructor.

Grading Scale:

Letter	%	Points
A	90-100	215-239
B	80-89	191-214
C	70-79	167-190
D	60-69	143-168
F	<60	<142

Assessments

Quizzes (10 points/quiz x 10 = 100 points)

Microscopy lab report (25 points)

Enzymology Report I (10 points)

Enzymology Report II (25 points)

Notebook checks (5 points/lab x 8 labs = 40 points)

Participation (3 points/lab x 13 weeks = 39 points)

Laboratory Schedule:

Lab	Date	Lab Activities:
1	Jan 14	Introduction to the Lab, Safety, and Laboratory Notebooks Exercise 1: Introduction to the Use of the Scientific Method
2	Jan 21	MLK Day – NO LABS
-	Jan 28	Exercise 2: Basic Light Microscopy Quiz 1
3	Feb 4	Exercise 3: Light Microscopy Observations of cells and organisms; Basic "5 Kingdom" levels of organization. Quiz 2
4	Feb 11	Exercise 5: Cellular Water Relations Quiz 3 Due: Notebook check # 1 (Labs 1, 2, & 3)
5	Feb 18	Exercise 4: Independent Microscopy Project Quiz 4
6	Feb 25	Exercise 6: Protein extraction & Quantification from living tissues Quiz 5 Due: Exercise 4 Lab Report
7	Mar 3	Exercise 7: Enzymology Lab: basics of a-amylase activity Quiz 6 Due: Enzymology report I
8	Mar 10	Exercise 8: Enzyme Regulation: Investigation of the effects of temperature and pH on a-amylase Quiz 7
-	Mar 17	Spring Break – NO LABS
9	Mar 24	Exercise 9: Photosynthesis Quiz 8
10	Mar 31	Exercise 10: Cellular Reproduction: Cell Cycle, Mitosis & Meiosis Quiz 9 Due: Enzymology Report II
11	Apr 7	DNA Forensics: Crime scene analysis I (handout) Quiz 10 Due: Notebook check #2 (Labs 5, 6, 7, 9, & 10)
12	Apr 14	DNA Forensics: Crime scene analysis II (handout)
13	Apr 21	Exercise 14: Transformation of pGLO plasmid Bioinformatics Exercise (handout)
14	Apr 28	Finish Ex. 14- Analyze Transformations Lab Assessment Exercise