

Principles of Biology I - BIOL 1107L (Fall, 2022)

Instructor Information

Instructor name: Dr. Jonghoon Kang

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Instructor office hours: Wednesday and Thursday, 2:00 PM - 3:30 PM or by appointment

Course Information

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

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

Time Table

Section	CRN	Day	Time	Location
B	83332	Monday	9 – 11:50 am	1085
D	83334	Monday	1 – 3:50 pm	1085
I	83339	Tuesday	2 – 4:50 pm	1085

Required materials

[CliffsNotes Math Review for Standardized Tests](#) 3rd Edition (ISBN-13: 9780544631021)

[Lab notebook](#) (Any regular notebooks are fine)

Lab Conduct (Policies)

- Arrive on time. Students who miss **two labs** without an excuse or **three labs total** cannot receive a lab grade above a “D” (60%). Attendance will be recorded using the lab quiz, which will be given the **first 20 minutes** of the lab. So, **please be on time**. In the event that a student misses a lab with an excuse, s/he should email the instructor within 24 hours of the missed lab. Excused absences are usually given for medical emergencies and documentation must be provided; the professor determines whether or not an absence is “excused” or not. Students are still responsible for all lab content even if they received an excused absence.

- It is strongly advised to maintain a laboratory notebook with drawings, descriptions, data etc. of the laboratory exercises. **A dedicated notebook is required.** The notebook will help you study for the quizzes.

- No **eating or drinking** in the lab.

- Students must take care of **lab equipment**. Notify the professor if something is not working properly or if something breaks during the course of the lab.

- Each student will be assigned a **microscope**. It is the student's responsibility to properly use the microscope. After lab the professor will check each scope to make sure that it was put away properly. Failure to do so will result in one point being subtracted from the student's final lab points. Notify the professor if your microscope is not functioning properly.

- **Cell phones** are not allowed to be used in lab with the exception of using them as timers or cameras to take pictures of data when necessary.

- Email: Please email me only from a **VSU email account**. I am unable to respond to emails from non-VSU accounts.

-Academic integrity is the responsibility of all VSU faculty and students. Students are responsible for knowing and abiding by the Academic Integrity Policy as set forth in the Student Code of Conduct and the syllabus. All students are expected to do their own work and to uphold a high standard of academic ethics. **Cheating** (including plagiarism) will not be tolerated. The instructor reserves the right to dismiss you from the course without credit if you are caught cheating. You will be respectful of your instructor and your fellow students at all times, or you will be dismissed from the class and potentially the course.

- **Print out this syllabus and keep it in your lab notebook.**

Lab Assignments and Evaluation Policy:

Throughout the semester lab assignments will be given. Due dates of these assignments are shown in the lab schedule table in this syllabus.

10 quizzes (100) + 1 Research Report (10) + Final (100) = 210.

Lab quizzes. There will be a 10-point quiz at the beginning of each lab session, so do not be late for lab! *The quizzes will be based on materials from the previous labs and the assigned pages of the math book.* The number of questions in a quiz will be ten, five of them will be from the previous lab and the other five questions will be from the math book. If there is an error with your quiz grade you must contact me on the week the quiz is given, as grades will become final by the following week. No calculators are allowed while taking a quiz. If you miss lab quizzes, there is an opportunity to make up them in the last day of semester (see the schedule). The maximum number of make-ups is three.

Lab Assignments. There will be one assignment. It is worth 10 points. Questions regarding assignment grades must be made during the week the grade has been given to you, as grades will become final by the following week. Late assignments may be accepted but with a deduction of scores at a rate of 1 point per day.

Your score (%) = Sum/2.1

Grading criteria

A, if your score ≥ 90

B, if your score ≥ 80

C, if your score ≥ 70

D, if your score ≥ 60

F, if your score < 60

At this point, I am going to briefly talk about why we include math in our course.

Why Math?

Because mathematics is fundamental for all science including biology. Second reason is mathematics is an important topic in most standardized exams such as MCAT, DAT, PCAT, OAT, and GRE. <https://students-residents.aamc.org/prepare-mcat-exam/whats-mcat-exam>

Math without a calculator

<https://www.princetonreview.com/med-school-advice/mcat-math>

How to study math?

Self-study. You are required to study one page of the book per day (see the schedule). In the following week you will be tested for the contents.

If you have problems in studying math

Schedule a tutoring appointment with the Academic Support Center.

<https://www.valdosta.edu/asc/>

When you sign up, make sure you sign up for an appointment for MATH1111. If you need further help, see me during my office hours.

Outcome

You will be well prepared with skills in arithmetic and you will be ready to study Algebra, which I may teach in BIOL 1108L in Spring, 2023. In addition, you will be better prepared to do research with me.

Lab Notebook Format: (You can use your notebook while taking quizzes, so it is very important to maintain your notebook in a good shape)

1. Title and Date

2. Introduction

All my writings on the board or presentation before experiments.

3. Materials and Methods

Record the materials and procedure of your experiments

4. Results

Record the results of your experiment, including every pertinent detail. Always transfer your group's results to your lab notebook. This includes recreating any tables or graphs from your lab manual in your lab notebook.

5. Discussion

Answers to the questions you asked in Introduction as well as your own interpretation of the results you obtained.

Accommodations Statement

Students with disabilities who are experiencing barriers in this course may contact the Access Office (<https://www.valdosta.edu/student/disability/>) for assistance in determining and implementing reasonable accommodations. The Access Office is located in University Center Room 4136 Entrance 5. The phone numbers are 229-245-2498 (V), 229-375-5871. For more information, please visit VSU's Access

Office or email: access@valdosta.edu. To request reasonable accommodations for pregnancy and childbirth, contact Christina Kidd, Student Conduct Coordinator at chkidd@valdosta.edu. Please note, you will be required to provide documentation from an appropriately licensed medical professional indicating the requested accommodations are medically necessary.

Non-Discrimination and Title IX Statement

Valdosta State University (VSU) upholds all applicable laws and policies regarding discrimination on the basis of race, color, sex (including sexual harassment and pregnancy), sexual orientation, gender identity or expression, national origin, religion, age, veteran status, political affiliation, or disability. The University prohibits specific forms of behavior that violate Title IX of the Education Amendments of 1972. Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in education programs and activities that receive federal funding. VSU considers sex discrimination in any form to be a serious offense. Title IX refers to all forms of sex discrimination committed against others, including but not limited to: sexual harassment, sexual assault, sexual misconduct, and sexual violence by other employees, students or third parties and gender inequity or unfair treatment based on an individual's sex/gender. The designated Title IX Coordinator for VSU is Mr. Darius Thomas. To view the full policy or to report an incident visit:

<https://www.valdosta.edu/administration/student-affairs/title-ix/>

Academic Integrity: You know that cheating is a bad thing to do. Students caught cheating will receive a grade of F for the test in question and will be reported to the Dean of Students. You are expected to follow VSU's Academic Integrity Code.

From VSU's Academic Integrity Code (the full code is available at <https://www.valdosta.edu/academics/academic-affairs/academic-honesty-policies-and-procedures.php>)

"Academic integrity is the responsibility of all VSU faculty and students. Faculty members should promote academic integrity by including clear instruction on the components of academic integrity and clearly defining the penalties for cheating and plagiarism in their course syllabi. Students are responsible for knowing and abiding by the Academic Integrity Policy as set forth in the Student Code of Conduct and the faculty members' syllabi. All students are expected to do their own work and to uphold a high standard of academic ethics."

Classroom demeanor or conduct: Every student should make the lecture a comfortable and enjoyable learning experience. Late entry to the class room or leaving early are not desirable behaviors. Common sense should be practiced and expected.

TENTATIVE LAB SCHEDULE AND TOPICS

B and D	I	Topic and Assignments
Aug 15	Aug 16	Course Introduction and Review of Syllabus
Aug 22	Aug 23	Introduction to the Use of the Scientific Method
Aug 29	Aug 30	Basic Light Microscopy Quiz 1 (Previous lab and Math: 8 – 12)
Sept 5	Sept 6	Labor Day Week-NO LABS
Sept 12	Sept 13	Observation of Living Cells with Light Microscopy Quiz 2 (Previous lab and Math: 13 – 22)
Sept 19	Sept 20	Cellular Water Relations Quiz 3 (Previous lab and Math: 23 – 27)
Sept 26	Sept 27	Pipetting Practice and Biochemical Spectroscopy Quiz 4 (Previous lab and Math: 28 – 32)
Oct 3	Oct 4	Protein Extraction and Quantification Quiz 5 (Previous lab and Math: 33 – 37)
Oct 10	Oct 11	Fall Break – NO LABS
Oct 17	Oct 18	Enzymology: alpha amylase activity Quiz 6 (Previous lab and Math: 38 – 47)
Oct 24	Oct 25	Photosynthesis Quiz 7 (Previous lab and Math: 48 – 52)
Oct 31	Nov 1	Cell Reproduction Quiz 8 (Previous lab and Math: 53 – 57) Assigning Research Report
Nov 7	Nov 8	DNA Gel Electrophoresis Quiz 9 (Previous lab and Math: 58 – 62) Research Report Due
Nov 14	Nov 15	Bioinformatics Quiz 10 (Previous lab and Math: 63 – 69)
Nov 21	Nov 22	Thanksgiving Break- NO LABS
Nov 28	Nov 29	Final (Entire labs and Math: 6 – 9 and 69 – 74) Make-up Quizzes