Syllabus
BIOL 1107L Sections G, I & Q: Principles of Biology Lab 1
Valdosta State University, Fall 2021

Laboratory (BSC 1085): Section G (CRN# 83337) Tuesday 9:30 - 12:20 pm
Section I (CRN# 83339) Tuesday 2:00 - 4:50 pm
Section Q (CRN# 83347) Thursday 2:00 - 4:50 pm

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Office hours: MWF 12-1:00 pm; Thurs 10-11 or by appointment

Course Objectives: The goal of this course is to assist students in learning, understanding, and implementing the scientific method using a variety of experimental techniques.

Learning Outcomes:
1. Develop and test hypotheses
2. Collect, analyze, and interpret data
3. Present data using graphs, tables and figures
4. Develop analytical skills necessary to interpret and explain graphs/figures
5. Acquire an understanding of basic biochemistry and enzymology
6. Develop and understanding of the cellular basis of life
7. Understand energy transformation in biological systems through the study of photosynthesis and metabolic reactions
8. Develop an understanding and appreciation for biotechnology and the molecular basis of life

Required Materials:

1) Goddard, R. H. 2010. Methods and Investigations in Basic Biology. 6th edition. Hayden-McNeil Publishing, Plymouth, Michigan.

2) Composition Book: 9 ¾ X 7 ½ in (Mead or similar is fine; Office Max, Office Depot, Walmart, Target, etc. – usually available for less than $1.50)

Laboratory Assignments and Grading: Students will be graded on their performance in laboratory based on attendance, quiz grades, group lab projects, selected homework assignmenfor the quiz. Some of the questions will cover the procedures and results of the previous week's exercises. Other questions will pertain to procedures for the upcoming lab. **You**

may use your lab notebook for the quizzes.

Lab Reports (50 points): Information for each assignment will be provided in lab. There will be both individual and at least one group report in which a summary of the group lab results will be presented in standard scientific format.

N1 Lab notebook (50 points):

LABORATORY EXERCISES

Week	Dates:	Topic:
1	Aug 16 – 19	Introduction to the Lab, Safety, and Laboratory Notebooks
2	Aug 23 – 27	**Exercise 1**: Introduction to the Use of the Scientific Method
3	Aug 30 – Sept 3	**Exercise 2**: Basic Light Microscopy
4	Sept 6 – 10	Labor Day week **- NO LABS**
5	Sept 13 – 17	**Exercise 3**: Light Microscopy Observations of cells and organisms
6	Sept 20 – 24	**Exercise 4**: Data Collection for Microscopy Project
7	Sept 27 – Oct 1	**Exercise 5**: Cellular Water Relations
8	Oct 4 – 8	**Exercise 6**: Protein Extraction & Quantification from Living Tissues **Read Appendix C & D**
9	Oct 11 – 15	Fall Break- **NO LABS**
10	Oct 18 – 22	**Exercise 7**: Enzymology Lab: Basics of Amylase Enzyme Activity
11	Oct 25 – 29	**Exercise 9:** Photosynthesis
12	Nov 1 – 5	**Exercise 10:** Cellular Reproduction: Cell Cycle, Mitosis & Meiosis
13	Nov 8 – 12	Handout: Crime Scene DNA Forensic RFLP Lab & Gel Electrophoresis
14	Nov 15 – 19	**Exercise 14:** Transformation of pGLO Plasmid into Bacteria
15	Nov 22 – 26	Thanksgiving Break**- NO LABS**
16	Nov 29 – Dec 3	