

BIOL 1107K: Unifying Principles of Biology I

Valdosta State University, Biology Department, Spring 2018: Laboratory Syllabus

Lecture (BC 1011): M W F 9:00 – 9:50 a.m.- Dr. Emily Cantonwine

Laboratory (BC 1083): Section B (CRN # 82053): T / 9:30 - 12:20 p.m. - Dr. Elder
Section D (CRN # 82998): W / 10:00 - 12:50 a.m. - Dr. Elder

Dr. John Elder -Office: BSC room 2088 - Office Phone: (229) 333-5762 - Email: jfelder@valdosta.edu

Office hours: M – 12:00 to 3:00 pm, W -1:00 to 3:00 pm and by appointment

Required Materials:

Methods and Investigations in Basic Biology, 6th Edition, R.H. Goddard, Hayden McNeil Publishing.

Grading: All exercises, quizzes and assignments will be equally weighted.

Laboratory: Students will be graded on their performance in laboratory based on **attendance, quiz grades, group lab projects, selected homework assignments, and other assignments as specified by your instructor. There are NO MAKEUP LABS.**

Lab Quizzes: Quizzes are given during the first 10 to 15-minutes of each laboratory. DO NOT BE LATE. You will not be allowed extra time if you are late. **If you miss the quiz completely, you will receive a zero** for 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.

Lab Assignments: Information for each assignment will be provided in lab.

Group Microscope Project: Each lab group will develop and complete an experiment and write a summary of the group lab results in standard scientific format. Further information will be provided in lab. All students are required to complete this assignment.

Laboratory Notebook: Each member of a lab group should actively participate in the lab work and should keep an organized notebook of his or her lab work.

Overall 1107 Grade Assessment:

Your lab scores will be turned over to your class lecturer. The score you earn in lab is worth 25% of your overall 1107 grade.

Calculate your overall grade as follows:

$(\text{Lab percentage grade} \times .25) + (\text{lecture percentage grade} \times .75) = \text{Overall percentage grade.}$

Overall letter grades will be assigned as per the lecturer's criteria.

Attendance:

- Laboratory attendance – ON TIME - is mandatory.
- Students who miss two labs without an excuse or three labs total cannot receive a grade above a "D" for the entire 1107 course.
- In the event that a student will miss a lab, s/he should notify the instructor in writing within 24 hours of the missed lab. It is the instructor's prerogative to accept the excuse or not.
- It is the student's responsibility to arrange to make up the lab in another section.
- No instructor is required to allow such a makeup attendance.
- Make up attendance is only possible during the same week in which the original lab is missed.
- Attendance will be recorded for lab sessions and it is the student's responsibility to check in on the lab roll at the beginning of each lab.

Rules:

- Be on time
- Absolutely no food or drink (you may step out to eat or drink)
- No phones or texting allowed in lab except as timers or cameras
- Legitimate phone business must be conducted outside lab
- Broken glass goes in proper containers
- No horseplay
- Safety first ALWAYS
- EVERYONE participates fully – Everyone is responsible for their own work
- No late or partial assignments will be accepted
- No late quizzes given
- Wear appropriate clothing
- Students are adults – you do not need my permission to leave the room

Tentative Lab Schedule:

Lab	Week of:	Topic:
1	Jan.08	Introduction to the Lab, Safety, and Laboratory Notebooks
--	Jan. 15	Exercise 1: Scientific Method- The Black Box Experiment
2	Jan. 22	Exercise 2: Basic Light Microscopy
3	Jan. 29	Exercise 3: Light Microscopy Observations of cells and organisms
4	Feb. 04	Exercise 4: Group Microscopy Project: Proposal Discussion Read Appendix A & A1 Due: Group Proposal (end of class)
5	Feb. 12	Exercise 4 Cont'd: Independent Microscopy Project: Data collection lab; Distribution of microscopic flora and fauna. A2 Due: Exercise 4, Summary of Group Results (end of class), See Appendix B
6	Feb. 19	Exercise 5: Cellular Water Relations
7	Feb. 26 Mar. 1- Midterm	Exercise 6: Protein extraction & Quantification from living tissues Read Appendix C & D
8	Mar. 05	Exercise 7: Enzymology Lab: basics of α -amylase activity A3 Due: Group Research Paper (Exercise 4)
--	Mar. 12	SPRING BREAK- NO LABS
9	Mar. 19	Exercise 8: Enzyme Regulation: Investigation of the effects of temperature and pH on α -amylase activity
10	Mar. 26	Exercise 9: Photosynthesis
11	April 02	Exercise 10: Cellular Reproduction: Cell Cycle, Mitosis & Meiosis
12	April 09	Exercise 13: Genetically Modified Organisms- Part I Genetics Handout- Part I
13	April 16	Exercise 13: Genetically Modified Organisms- Part II
14	April 23	Exercise 14: Genetic Transformation of E. coli with rDNA- Part I Genetics Handout- Part II
15	April 30	Exercise 14: Genetic Transformation of E. coli with rDNA- Part II