

Principles of Biology I: Lab Syllabus Addendum (Fall Semester 2016)
BIOL 1107K

Laboratory: Laboratory (BC 1083):

Section C (CRN # 81245): Tu / 9:30 a.m. - 12:20 a.m.

Section D (CRN # 81246): Tu / 2:00 p.m. - 4:50 p.m.

Section F (CRN # 81248): W / 1:00 p.m. - 3:50 p.m.

Section G (CRN # 81249): Th / 9:30 a.m. - 12:20 p.m.

Instructor: Dr. John Elder

Office: BC 2088

Office hours: **M,W,F 10:00-11:00 a.m** or by appointment

Office Phone: (229) 333-5762

Email: jfelder@valdosta.edu

Course Objectives: The goal of this course is to stimulate student learning of these basic concepts and to encourage contemplation of the significance of each concept to the general field of biology.

Educational Outcomes:

- Develop and test hypotheses, collect and analyze data, and present the results and conclusions
- Exhibit an understanding of basic biological chemistry
- Describe the evolutionary processes responsible for biological diversity, explain the phylogenetic relationships among the major taxa of life, and provide examples
- Demonstrate an understanding of the cellular basis of life

Required Materials:

Methods and Investigations in Basic Biology, Current 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. You may use your lab notebook for the quizzes.

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.

Laboratories in particular are important not to miss as stated above. 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. Attendance will be recorded for lab sessions. Students who miss two labs without an excuse or three labs total cannot receive a grade above a "D".

BIOL 1107K: Unifying Principles of Biology

Valdosta State University, Biology Department, Fall 2016: Laboratory Syllabus

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Elder Office hours (BC 2088): M,W,F 10:00-11:00 a.m. Phone: 333-5762 Email: jfelder@valdosta.edu

TENTATIVE LABORATORY EXERCISES:

Lab	Week of:	Topic:
1	Aug.15-19	Introduction to the Lab, Safety, and Laboratory Notebooks
2	Aug. 22-26	Exercise 1: Introduction to the Use of the Scientific Method
3	Aug. 29- Sept. 02	Exercise 2: Basic Light Microscopy
--	Sept. 05-09	Labor Day- NO LABS
4	Sept. 12-16	Exercise 3: Light Microscopy Observations of cells and organisms; Basic "5 Kingdom" levels of organization.
5	Sept. 19-23	Exercise 5: Cellular Water Relations
6	Sept. 26-30	Exercise 4: Independent Microscopy Project A1 Due: Group Proposal (end of class) N1: Notebook check # 1
7	Oct. 03-07 Oct. 6- Midterm	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
--	Oct. 10-11	Fall Break- NO LABS
8	Oct. 17-21	Exercise 6: Protein extraction & Quantification from living tissues Read Appendix C & D
9	Oct. 24-28	Exercise 7: Enzymology Lab: basics of α -amylase activity A3 Due: Group Research Paper (Exercise 4)
10	Oct. 31-Nov. 04	Exercise 8: Enzyme Regulation: Investigation of the effects of temperature and pH on α -amylase activity
12	Nov. 07-11	Exercise 10: Cellular Reproduction: Cell Cycle, Mitosis & Meiosis Mendelian Genetics Handout- In class exercise
13	Nov. 14-18	Exercise 14: GMO Detection with PCR
--	Nov. 21-25	Thanksgiving Break- NO LABS
14	Nov. 28- Dec. 02	Finish Ex. 14- Gel electrophoresis Lab Assessment Exam N2: Notebook check # 2