

BIOL 1107P, Q, R - PRINCIPLES OF BIOLOGY 1 - FALL 2014
SYLLABUS & COURSE POLICIES

Lecture: Bailey Science Center (BSC) 1023 (M, W, F, 10:00-10:50 a.m.)

Laboratory: All laboratory sections meet in BSC 1085

Section P meets Thurs. 9:30 - 12:20

Section Q meets Thurs. 1:00 - 3:50

Section R meets Friday 11:30-2:20

Instructor: Dr. Mark Blackmore

Office: BSC 2218

Office Hours: M, W 12:00-12:45 or by appointment

Contact information

Telephone (229) 259-5114

email: mblackmo@valdosta.edu

Texts: Life: The Science of Biology 10th ed. by Sadava et al.; Methods and Investigations in Basic Biology

6th ed. by Goddard. NOTE: This course uses Learning Curve and you must sign up (a(s)-2(n(i)-0 Tw (-)TjJTJ 0.0.0 emphasis on the cellular nature of life. Concepts covered include life; cell structure, function, metabolism, and reproduction; cell structure and eukaryotes.

There are no prerequisites for this course. BIOL 1100 is a corequisite.

Learning Goal

Students will demonstrate understanding of the physical universe and the nature of science, and they will use scientific methods and/or mathematical reasoning and concepts to solve problems.

Course scope and objectives: This course is a prerequisite for all other courses required for the biology major. The primary objective is to provide a foundation for further studies in biology. It is also hoped that you will gain an understanding of how biologists and other scientists approach problems.

Course Objectives and Outcomes (refer to General (GEO) & Biology (BEO) Educational Outcomes listed below for more information)

By the end of this course, students will be able to

- 1) answer questions that demonstrate an understanding of fundamental concepts of biology, including the scientific method and experimental design; cellular structure, function, metabolism, and reproduction; the nature of the gene and its action; and the mechanisms of evolution (GEO 5; BEO 1-4)
- 2) perform a variety of standard lab techniques used in biological research (GEO 5)
- 3) use critical thinking skills and written communication skills to present the results and conclusions of data collected in the lab in standard scientific writing format (GEO 4 & 7; BEO 1)

Valdosta State University General Educational Outcomes (GEO)

1. Students will demonstrate understanding of the society of the United States and its ideals.
2. Students will demonstrate cross-cultural perspectives and knowledge of other societies.
3. Students will use computer and information technology when appropriate.
4. Students will express themselves clearly, logically and precisely in writing and in speaking, and they will demonstrate competence in reading and listening.
5. Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices.
6. Students will demonstrate knowledge of diverse cultural heritages in the arts, the humanities, and the social sciences.

Office is located in Farber Hall. The phone numbers are ~~2452~~2492498(V) and 229375-5871 (VP). For

FALL 2014- Tentative Laboratory Schedule, BIOL 1107 P, Q, R

LABORATORY EXERCISES:

Week	Lab Days:	Topic:	Assignments Due*
1	August 21/22	Laboratory Introduction; Ex. 1 Use of Scientific Method	Quiz 1
2	August 28/29	Ex. 2 Basics of the Light Microscope	Quiz 2
3	September 4/5	Discuss & Plan for Ex. 4	
4	September 11/12	Ex. 3 Observation of Living Cells with Light Microscope	Quiz 3 Independent. Project Proposal
5	September 18/19	Ex. 5 Cellular Water Relations	Quiz 4
6	September 25/26	Ex. 4 Independent Group Microscopy Project: Data collection lab	Quiz 5
7	October 2/3	Ex. 6 Protein extraction & quantification	Quiz 6 Independent Project Report
8	October 9/10	-amylase activity	Quiz 7
9	October 16/17	Ex. 8 Enzymology: Investigation of the effects of temperature on enzyme activity	Quiz 8
10	October 23/24	Ex. 9 Photosynthesis	Quiz 9
11	October 30/31	Ex. 10 Cell reproduction: Mitosis, Meiosis, & Cytokinesis	Quiz 10
12	November 6/7	Ex. 11 Isolation of plasmid DNA	Quiz 11
13	November 13/14	Ex. 13 Genetically Modified Organisms	Quiz 12
14	November 20/21	Ex. 14 pGLO Transformation	
15	November 27/28	Thanksgiving Holiday	
16	December 4/5	Finish pGLO	
17	December 8-12	No Labs – Final Exam Week	

*At the end of each lab, each student must have completed all data tables and graphs in the Lab Manual and get them signed off by the instructor. Homework assigned must be completed and turned in at the beginning of the next lab.