

Elizabethtown College Department of Biology
Bio 111 General Biology I
Fall 2013

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Office Telephone: (717) 361-1448
Office Hours: Mon/Wed. 10:30-11:30, Tues./Thurs. 2:00-3:00
and anytime by appointment

Class Materials:

Lecture:

Biological Science, Scott Freeman, 4th edition
Access Code for Mastering Biology
A Short Guide to Writing About Biology, Pechenik, 8th edition

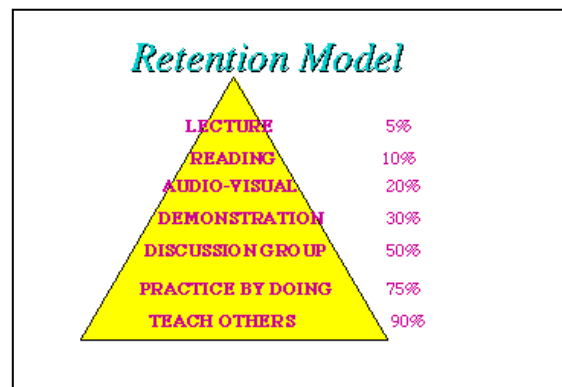
Lab:

Biology 111 Laboratory Manual, 2013

This Professor's Philosophy:

It has been documented that the attention span of an average college student is approximately 2-3 minutes during a standard class lecture. In an attempt to combat, or compete with, the deluge of thoughts (all scientific of course) running rampant in your heads, I have adopted a variety of active learning strategies. These activities are used in combination with material presented via the "basic" lecture format. I strongly believe that everyone has a unique mode of learning (hearing, writing, processing and recalling) facts and concepts. Thus, during the semester you will be exposed to a number of different teaching techniques designed to help you determine your most efficient learning mode. Undoubtedly, you will not "connect" with each teaching method that I expose you to but hopefully you will work hard to determine how you learn best!

This class is extremely challenging and exciting, and although I will explain the various biological mechanisms through lecture, web-based activities, experimentation in the laboratory and group projects; however, you ultimately will have the final responsibility for your learning. I do not subscribe to the model of the professor pouring information from her head into the heads of the students. When you work hard to master the material, you understand it—and it is yours forever. In working vigorously on your own, and in your group, you are developing study skills that will carry you through the rest of your college career and the rest of your life.



Student Learning Objectives:

- Explain the common biological principles of cell biology, molecular biology, genetics and animal physiology
- Perform basic laboratory skills that can be expanded upon in the upper level classes
- Work collaboratively in laboratory experimentation and classroom learning
- Be able to formulate a simple hypothesis, suggest an appropriate experiment and evaluate data to further understand the natural world

Course Structure:

This course will introduce you to the biological concepts that will be expanded upon in your upper level classes. When you understand the concepts you can more easily integrate the details. *There is a large amount of material that will be presented during the semester, but it is the depth at which I will require you to understand the material which will be the biggest challenge for you.* The more complex topics will demand most of the lecture period while the simple concepts will be left for you to master on your own by using the web activities and your study/test groups. The material presented in this class will build upon itself; and thus, short-term memorization will not result in a good grade.

Primary lectures are held in Esbenshade Room 380 Monday, Wednesday and Friday 9:30-10:20 am. **All lectures are mandatory.** I firmly believe that you must participate during the lecture period to learn. Each student will be assigned to a study/discussion/exam group. These groups will be formed in the first lecture section of the class and *each student is accountable to his or her group.* Various strategies will be used to ensure that everyone in the group participates without any one member monopolizing the discussion. Note that you must assess and grade each of your group members at the end of the semester and remember, in turn, your group members also will grade you.

Lastly, I firmly believe in the Academic Pledge of Integrity that you all took upon entering Elizabethtown College. I trust all of my students and I also promise to “be honest and uphold integrity” in the classroom. If for any reason you feel the need to talk to me about honestly in the classroom or laboratory, my door is always open.

Group Exams:

The groups to which you are assigned will last the entire semester. The group test will be conducted as follows. On exam day you will have approximately of 45 min. to complete the individual exam (you and your group may finish earlier). When everyone in your group is finished with their individual exam, the monitor of the group will bring the scantron sheets to me. I then will give the “Monitor” a single scantron sheet for the group. The “Recorder” of the group will place the group number and all members’ names on the sheet. The groups will then retake portions of or the entire, test together. Finally, the “Monitor” will place all exams and scantrons into the group folder. This procedure will be carried out for all 5 class exams. Your 5 individual and group exams will count for 40% and for 6% of the final grade, respectively.

Quizzes:

To ensure that you are keeping up with the lecture and reading material, we will have short quizzes on the following dates (all are Friday): 9/10, 9/17, 10/1, 10/22, 10/29, 11/5, and 11/19. Of the 7 quizzes, you will be allowed to drop your two lowest scores. Thus, each quiz counts for 2% of your final grade! If you miss a quiz, it counts as the one you drop unless prior arrangements have been made with me. Combined the quizzes are 10% of your final grade.

Homework and Reading Assignments:

To ensure that you are coming to each class prepared for the day's topic, homework assignments have been developed and are available online through our Mastering Biology course. These assignments are relatively short but will require that you have read and comprehended the assigned pages in the textbook. Please see additional handout for information about how to register for Mastering Biology and access your homework assignments. Other homework may be assigned from the Practicing Biology workbook. The timely completion of these assignments (must be completed by 7:30 am for EACH class session) is 8% of your final grade. The table below outlines the levels of homework completion. +/- grades may be assigned based upon the correctness of homework answers.

Level of Homework Completion	Grade
1. Completes 95% or more Mastering Biology homework assignments on time.	A 95
2. Completes 85% -94% Mastering Biology homework assignments on time.	B 85
3. Completes 75%-84% Mastering Biology homework assignments on time.	C 75
4. Completes 65%-74% Mastering Biology homework assignments on time.	D 65
5. Completes fewer than 65% Mastering Biology homework assignments on time.	F 55

Note: For every class period missed 2 points will be deducted from your final homework grade.

Laboratory:

Attendance in the laboratory is mandatory. If you cannot attend your scheduled section (valid reasons only please), you must contact your lab instructor and arrange to attend one of the other lab sections offered that week. You are responsible for any material presented in the laboratory manual and handouts. This material can and will be included in the course examinations as well as the laboratory practical examinations. Lastly, your laboratory section should not be viewed as a separate course but as an added

information source. We have tried to coordinate the lectures so that they closely correspond to the laboratory exercise. Use the lab in conjunction with the lecture to learn the biological principles. You will receive a detailed laboratory syllabus in your individual section.

Grading:

Final grades will be based on the following:

1. **40%** of the final grade will be based on the 5 section examinations (@ 8% each).
2. **6%** of the final grade will come from the culmination of your group test scores on each of the lecture exams in the lecture (@ 1.2%).
3. **10%** will be based on assignments (5% quizzes, 5% homeworks)
4. **10%** of the final grade will be based on a cumulative final examination.
5. **4%** of the final grade will come from your peer evaluations
6. **30%** of the final grade will be based on the laboratory grade. The laboratory grade is based upon 3 practical exam and 1 written laboratory reports. Details will be given in the lab section in which you attend.

Statement on Disability:

“If you have a documented disability and need reasonable accommodations to fully participate in course activities or meet course requirements, you must

- (1) contact the Coordinator of Learning Services and Disability Services, Lynn Davies, in the Center of Student Success, BSC 288, (717) 361-1549, daviesl@etown.edu, AND
- (2) meet with me, the instructor, within two weeks of receiving a copy of the accommodation letter from Disability Services to discuss your accommodation needs and their implementation.”

Notes:

Figures and data obtained from www.k12.hi.us/~paia/Memory_and_Learning_Model

Tentative Syllabus
Bio 111 General Biology
Fall 2013

<u>Lecture Topic</u>	<u>Freeman Assignment</u>
<u>Intro to class/Overview Ch 1</u>	Ch. 1
<u>Outline of Ch 2</u>	Ch. 2
<u>Water, pH, Thermodynamic</u>	Ch. 2
<u>Protein Structure and Function</u>	Ch. 3
<u>Nucleic Acids the RNA World</u>	Ch. 4
<u>Carbohydrates</u>	Ch. 5
<u>Lipids, Membrane and the First Cells</u>	Ch. 6
<i>Exam I Week of September 20</i>	
<u>Inside the Cell</u>	Ch. 7
<u>Cell-Cell Interactions</u>	Ch. 8
<u>Cellular Respiration/Fermentation</u>	Ch. 9
<u>Photosynthesis</u>	Ch. 10
<i>Exam II</i>	
<u>The Cell Cycle</u>	Ch. 11
<u>Meiosis</u>	Ch. 12
<u>Mendel and the Gene</u>	Ch. 13
<i>Exam III</i>	
<u>DNA Synthesis</u>	Ch. 14
<u>How Genes Work</u>	Ch. 15
<u>Transcription and Translation</u>	Ch. 16
<i>Exam IV</i>	
<u>Animal Nutrition</u>	Ch. 43
<u>Animal Circulation</u>	Ch. 44
<u>Excretory System</u>	Ch. 42
<u>Nervous Systems</u>	Ch. 46
<i>Exam V</i>	
<u>Animal Reproduction</u>	Ch. 48
12/10/13 7:30-10:30am Final Cumulative Exam	