

BYS 119 Section 01 PRINCIPLES OF BIOLOGY Spring 2004 Lecture Syllabus
Bruce Stallsmith, Ph.D. Room 331 Wilson Hall 824-6992 fundulus@hotmail.com

Lecture meets MWF 12:40 – 1:35 p.m. in Room 141 of Wilson Hall

Required Textbook: *BIOLOGY*, 6th ed., by Campbell, Reece
(also a lab manual for lab section)

Office Hours: Tuesday 1 – 3, Wednesday 10:30 – 11:30

Chapter in Campbell, Reece:

Introduction: Themes in the Study of Life	Chapter 1
Chemical Context of Life	Chapter 2
Water and the Fitness of the Environment	Chapter 3
Carbon and the Molecular Diversity of Life	Chapter 4
The Structure and Function of Macromolecules	Chapter 5
EXAM 1, Friday, February 13	
An Introduction to Metabolism	Chapter 6
A Tour of the Cell	Chapter 7
Membrane Structure and Function	Chapter 8
Cellular Respiration: Harvesting Chemical Energy	Chapter 9
Photosynthesis	Chapter 10
EXAM 2, Friday, March 19	
The Cell Cycle	Chapter 12
Meiosis and Sexual Life Cycles	Chapter 13
Mendel and the Gene Idea	Chapter 14
The Chromosomal Basis of Inheritance	Chapter 15
EXAM 3, Friday, April 16	
The Molecular Basis of Inheritance	Chapter 16
From Gene to Protein	Chapter 17
Viruses (partial chapter)	Chapter 18
FINAL EXAM: Monday, May 3, 11:30 a.m. – 2 p.m.	

HOURLY EXAMS: Three hourly exams will be given. The lowest of these grades will be dropped in the calculation of your final course grade. Due to logistical and fairness issues, **NO MAKE-UP EXAMS WILL BE GIVEN.** If you miss an hourly exam, that becomes your dropped grade. It is your responsibility to make the time and effort to take hourly exams. Hourly exams count for 50% of your total course grade.

FINAL EXAM: a comprehensive exam (covers everything!) given Monday, May 3, 11:30 a.m. – 2 p.m. The final exam counts for 25% of your total course grade. You must take the final exam to pass this class.

LABORATORY SECTION: Attendance in the laboratory section is mandatory; you cannot pass this class if you do not receive a passing grade (60) in the laboratory section. You are enrolled in a specific laboratory section; you must attend this section and meet the grading criteria of that section's instructor. The laboratory grade counts for 25% of your total course grade.

COURSE OBJECTIVES, PRINCIPLES IN BIOLOGY BYS 119 (Prof. Bruce Stallsmith)

This class is a 4 credit lecture and laboratory course for which you will receive a letter grade. I expect it will take about 7 – 9 hours per week for study and homework. In this class we study the fundamentals of how living systems function and maintain themselves, starting at the smallest levels of organization (molecules) and focusing on the structure and operation of the basic unit of life, the cell. This class is designed to prepare students for careers in the life sciences, and also to educate other students about the properties of life. Success in this class requires as prerequisites good studying skills, and solid math and reading skills. If you are enrolled in a basic math course or have not taken and passed a pre-algebra course or higher, you should not be in this class.

Attendance: Punctual class attendance is a major portion of this class since the contents of class lectures and laboratories are not replicable. You should attend every class; there is no allowable number of cuts. If you must miss a class, you should make arrangements to find out what you missed and get any materials that were handed out in class.

All class material must be completed and turned in by the last class meeting unless otherwise explicitly arranged. This is true for both the lecture and laboratory sections. Please don't try to turn in lab reports 6 weeks late, this wastes everyone's time.

Cheating and Plagiarism: There is zero tolerance for any form of cheating, which includes plagiarism—the submission of the work of someone else as your own with no attribution. This is especially relevant in the laboratory sections. Any incidents will be reported to the Vice President for Students Affairs, whose office is responsible for implementing university policies on academic misconduct as described in the Student Handbook.

BYS 119 FINAL EXAM EXTRA CREDIT ESSAY QUESTION

This question will appear on the final exam, to be answered during the final exam period without the assistance of any notes. You can earn up to 3 points added to your final class average (*not* just to the final exam grade). It could be answered in several paragraphs, maybe also using an illustration to flesh out your answer.

“During this semester we've examined some of the basic processes carried out by a living cell that together contribute to homeostasis. Homeostasis is the sum total of processes by which a cell maintains itself as a living entity, distinct from a random assemblage of molecules. We have discussed how cells utilize chemical properties and the laws of thermodynamics for the cell's benefit. Describe the necessary linkages between a eukaryotic cell's energy acquisition and utilization, the same cell's general structure, and (broadly) how this eukaryotic cell can replicate itself by producing two identical daughter cells.”