

2019-20 ADVANCED BIOLOGY

Mr. Mikolay

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COURSE DESCRIPTION AND OBJECTIVES:

Advanced Biology is a weighted elective offered to upperclassmen interested in the biological sciences and related fields, and who may intend to further their careers in some area of the biological sciences. The course is recommended only for students who have met the minimum requirement of a “C” or better in previous math and science courses, focuses heavily on cell and molecular biology, and serves as the necessary prerequisite for AP Biology.

Topics covered in this course will include the following:

Intro to Body Systems	Meiosis & Life Cycles	Bioenergetics
Biochemistry	Mendel & the Gene Idea	Ecosystems & Communities
Cell Structure & Function	Chromosomes & Inheritance	
Membrane Structure & Function	Genetics	The History of Life
Photosynthesis	Evolution	Biological Inquiry & Discovery
Metabolism	Bacteria & Viruses	The Human Genome
Cell Respiration	Cell Communication	Cell Regulation
Cell Division	Classification	Reproduction

Literally translated, Biology is the “study of life.” From the simplest forms to the most complex, from a pool of amino acids to the Olympic athlete and astrophysicist, from the smallest photosynthetic bacteria to the mammoth California Redwoods (*Sequoia sempervirens*) – and everywhere in between – wherever there is life, there is Biology.

In this course we'll have the chance to examine a number of different topics, with a primary focus on cell & molecular biology. During each unit, we will also receive a brief introduction to human body systems, which will serve as a primer for those who wish to further pursue human biology. Upon successful completion of this course, you should find yourself well prepared for introductory college-level Biology, whether taken at the major or non-major level.

Text: *Campbell, Neil A. **Biology**. 8th ed. San Francisco: Pearson-Benjamin Cummings, 2008. Print. AP.*

Grading: *Tests, quizzes, labs, activities and homework will all come together to determine your course grade - with the majority determined by chapter exams.*

Quizzes & Tests: *I give quizzes regularly, usually on Fridays. Some of these quizzes are announced, SOME ARE NOT. Chapter tests will be held at the completion of each unit, and will typically be announced at least three days in advance. During the time leading up to an exam, we will continue our progress and begin the next chapter - this new material will NOT however, be part of the upcoming exam.*

Chapter Readings: *In addition to lecture and labs, you will receive regular chapter reading assignments. It is essential for you to complete the assigned readings. A portion of each quiz and exam will come directly from the assigned readings.*

Cell Phones: *Each student will be assigned a numbered slot to place their cell phone in each day at the beginning of class. All student phones will be turned to silent mode or off, and must reside in this holder unless we need to use our phones for class - in which case I will let you know. On days with double lab, students may get and use their phones between the two class sessions, but they must then be placed back in your assigned slot before the start of the lab period.*

On a side note, it seems our phones may be classically conditioning us to cling to them - as some have begun to note a Pavlovian response that humans seem to display when they receive the comforting chime of their message alerts. More to come on this front...

***Class Conduct:** My basic philosophy with respect to class conduct can be summarized by the German writer Johann Wolfgang von Goethe: "Treat a person as they are and they will remain as they are. Treat a person as they can and should be, and he or she will become what they can and should be." My belief is that you can and should be a mature, hardworking student who respects both your teachers and peers. Unless you show me otherwise, that is exactly how you can expect to be treated by me.*

***Grading Scale:** A = 91 - 100%; B = 81 - 90%; C = 70 - 80%; D = 60 - 69%; F = 59 or below*

AN IMPORTANT NOTE ABOUT HABITUAL ABSENCES

*We all miss school from time to time - occasional absences are the norm. That being said, it is in your best interest that you prioritize this class in your schedule. If you have to make an appointment, try to make it for outside of class time. If you belong to clubs or activities that excuse you from class, know that you are responsible for independently making up whatever you miss during those absences. It is my experience that students who miss several class sessions during a quarter (for any reason) almost always find those absences impacting their grade. **Simply put: there is NO substitute for attending class.***

