

AP Biology Syllabus

Course Overview

Welcome to AP Biology! This syllabus is not meant to scare you, but instead, is meant to show you how much work we have in front of us this school year. AP Biology is a freshmen biology college class. In May, you will have the opportunity to take the AP Biology Exam and earn college credit for the work you complete this school year. The only way you will be prepared for that exam is if we complete this entire syllabus. We will meet each day during 5th period. Twice a week, Tuesday and Thursday, we will also meet during 7th period. On Tuesdays, the extra class period will be used for writing essays on a unit we have already covered in class or reviewing vocabulary from the course. Thursdays will be used for conducting laboratory experiments. We will be using the seventh edition of *Life: The Science of Biology* by Purves, Sadava, Orians, and Heller (2004). I am expecting you to read the chapters outside of class so that class time is used for discussion of the unit topics. I also will give you articles from *Scientific American* for each unit that we discuss. You will be expected to read those articles and write a short synopsis of them to turn in for a grade. Each unit test is designed to imitate the multiple choice portion of the AP Exam you will take in May. It is composed of 50 multiple-choice questions. For studying purposes, I would encourage you to utilize the publisher's website, www.thelifewire.com.

Course Planner

Dates	Unit	Topics	Chapter Readings
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First Semester, First Quarter

8/18 – 9/3	1	Life and Chemistry: atoms, chemical bonding, water, acid & bases, carbohydrates, proteins, lipids, and nucleic acids	2, 3
9/4 – 9/24	2	Cells: prokaryotic and eukaryotic cells, cellular organelles, cell membranes, cell division, and cell signaling & communication	4, 5, 9, 15
9/25 – 10/15	3	Bioenergetics: energy, enzymes, respiration, and photosynthesis	6, 7, 8

Second Quarter

10/16 – 11/5	4	Introduction to Genetics: Mendelian genetics, DNA replication, transcription, and translation	10, 11, 12
11/6 – 12/5	5	Molecular Genetics: prokaryotic & eukaryotic genome, transcription regulation, recombinant DNA, biotechnology, treating genetic diseases, and ethical issues within the field of genetics	13, 14, 16, 17, 18
10/16 – 12/11 Take home test due on 12/11	6	“March through the Kingdoms”: bacteria, protists, and plants,	27, 28, 29, 30 On-line quizzes (open book) due dates: Ch. 27 – 10/27 Ch. 28 – 11/7 Ch. 29 – 11/19 Ch. 30 – 12/8
12/16 – 12/19		Semester exams given	

Second Semester, Third Quarter

1/5 – 1/21	7	Evolution: evolution timeline, Hardy – Weinberg equilibrium, and phylogenetic trees	22, 23, 24, 25, 26
1/22 – 2/10	8	Botany: plant anatomy, transport, nutrition, regulation of growth, and reproduction	35, 36, 37, 38, 39
2/11 – 2/27	9	Ecology: behavioral & population ecology, communities & ecosystems, biogeography, conservation biology, and biogeochemical cycles	54, 55, 56, 57, 58
1/5 – 3/10 Take home test due on 3/10	10	“March through the Kingdoms”: fungi, invertebrates, and vertebrates	31, 32, 33, 34

Fourth Quarter

3/11 – 3/27	11	Animal Systems: skeletal, muscular, respiratory, circulation, digestive, and excretory systems, comparisons of the anatomy and physiology of these systems within eukaryotic organisms and the advantages of systems seen in higher level organisms	47, 48, 49, 50, 51
3/30 – 4/17	12	Animal Systems: nervous system and animal behavior	44, 45, 46, 52

4/20 – 5/1	13	Animal Systems: homeostasis, immune, endocrine, reproductive systems, advantages of sexual reproduction and using an egg or a placenta for terrestrial animals	41, 42, 43
5/4 – 5/8		Exam review days	
5/11		AP Biology Exam	
5/12 – 5/15		Zoo Project	

Units 6 and 10 are completed outside of class time since these kingdoms should be a review. A take-home test at the end of second and third quarter will deal with the assigned chapters.

Lab Component

Thursday has been designated our lab day. Once the labs are completed, you will be required to turn in a lab report within one week. The format required for these lab reports will be distributed with the first lab that requires one. For those labs that do not lend themselves to a lab report, you will be required to complete any charts and graphs and answer any questions that have been provided with the lab.

Student Evaluation

- Homework / Essay questions: (15%)
Homework grades usually consist of the *Scientific American* summaries. The essay grades occur at least biweekly. At the beginning of the year, these grades are based on essay outlines and not on your ability to write an entire essay.
- Labs: (15%)
This section consists of both lab reports and lab questions.
- Unit tests: (70%)
I use a 50 question multiple choice format. I grade the tests just as the multiple choice section of the AP Exam is graded. This way you learn how not answering questions and answering questions incorrectly affect your score. I also curve the test grade so that the average score is an 85, the lowest “B” at our school. You will become accustomed to the feeling of not being able to answer every question without panicking. This will be beneficial when you take the AP Exam and find yourself needing to skip or to just narrow your choices and make an educated guess on some of the questions. All of the multiple choice questions come from the test file provided with the textbook.