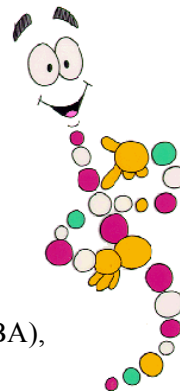


AP Biology

Course Syllabus

2012-2013



Mr. Fazio

Room: 289

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Office Hours: Before school, after school, and during my conference period (TBA),

Course Description:

This course follows the guidelines created by the College Board. It is designed to be equivalent to a college level introductory course. Successful completion of the AP Biology exam can lead to either introductory biology credit or elective credit depending on the requirements of the college a student is attending.

Course Objective:

AP biology students will demonstrate the ability to use specific skills and processes, appropriate scientific terminology, and major biological concepts to explain the uniqueness and interdependence of living organisms, their interactions with the environment, and the continuation of life on Earth.

Required Text:

Campbell, Neil A., and Reece, J., *Biology*, AP edition (2005)

Raven, Peter H., et al., *Biology*, Eighth edition (2007)

You will each have a textbook checked out to you. Everyone is responsible for your own book's care and transportation to and from class. In addition to the text, supplemental reading materials will be given periodically.

Assessment and Evaluation:

15% Homework and Class work Assignments	Individual assignments include "Reading Guides" from the Campbell and Raven texts along with supplemental readings and essays. Students will be required to turn in "Reading Guides" on a regular basis; this will insure they are keeping up with required reading. Other reading assignments and essays will be assigned periodically throughout the year.
10-15% Semester Projects	There will be one small project first semester and two projects, including a formal research paper, second semester.
35-40% Laboratory assignments and reports	Part of the college board requirements for AP Biology is a series of 12 labs; students will complete these labs along with the worksheets/ lab reports that will be assigned along with them. In addition to the required 12, other labs and laboratory-based activities will also be assigned.
35% Tests and Quizzes	Exams will follow after every unit and at the semester. Quizzes will be given periodically to assess learning.

Grading Scale:

A= 90-100% D= 60- 69%
B= 80-89% F= Below 60%
C= 70-79%



Academic and Behavioral Expectations:

AP Biology provides students with an experience equivalent to a college level biology course. There are extensive reading assignments that the student **must** complete in order to be successful. Supplementary readings in the form of journal articles, and supplementary texts are also required. In addition students are expected to complete assigned laboratory activities and any other supplementary assignments given throughout the course.

At all times students are expected to follow classroom and school rules, behave in a responsible and mature manner, and conduct themselves with honor and integrity. Students are expected to do their own work. Plagiarism and cheating will not be tolerated.

Provisions for extra help and make-up:

To successfully master the large amount of complex information presented in this class, after school or during lunch study sessions may be available. The frequency and duration of the sessions will depend on consensus of class and instructor availability.

Students who are absent from class are responsible to pick up make-up work or stay after school or during lunch to finish missed assignments. Students should schedule make-up work immediately upon their return from an absence.

It also may be helpful to form a student study group. Students should find a group of friends in class and exchange phone numbers and or email. This way on the occasion they miss a class they can contact them and find out what was missed in class that day.

Tentative Topic Outline:

Due the challenging nature of this course and the ever-evolving school schedule this topic outline is by no means set in stone. Revisions will be made as necessary to accommodate the school schedule.

Dates	Unit	Topics	Chapter Readings
Week 1-3	1	Ecology, Biomes, Communities, Ecosystems, Populations, Nutrient Cycles	50, 52, 53, 54, 51*, 55*
Week 4-6	2	The Chemistry of Life, Macromolecules, Enzymes, Metabolism	2, 3, 4, 5, 8, 9, 10
Week 7-9	3	The Cell, Cell Processes, Cell Cell Communication	6, 7, 11, 12

Dates	Unit	Topics	Chapter Readings
Week 10-13	4	Meiosis, Classical Genetics	13, 14, 15, 16
Week 14-18	5	Gene to Protein, Biotechnology, Bacterial Genetics, Viruses, Eukaryote Genomes	17, 18, 19, 20, 21*
Week 19-20	1-5	Semester I Final (Cumulative)	Campbell 2-19, 50, 52-55*
Week 21-24	6	Darwin, Evolution of Populations, Speciation, Origins of Life,	22, 23, 24
Week 26-27	7	Phylogeny and Systematics. Diversity of Life, Prokaryotes, Protists, Fungi, Invertebrate and Vertebrate Animals	25, 26, 27, 28*, 31*, 32-34 Focus will be on Systematics and phylogeny
Week 28-29	8	Plant Diversity, Plant Form and Function, Nutrition, Transport, Reproduction, Response to Stimuli	29, 30, 35-39 Focus on Response to change
Week 30-36	9	Animal Form and Function, Homeostasis, Endocrine System, Nervous System, Sensory and Motor Input, Behavior, Nutrition, Gas Exchange, Immune System, Osmoregulation, Reproduction and Development	40- 49 Nervous, Endocrine, and Immune will be focus, other chapters used to highlight homeostasis
Week 17	Make up and Review for AP Exam		
May 13	AP Exam		

*Optional Chapters, will cover if time permits.

A research paper will be the primary activity after the AP exam, in addition there will be readings and activities based on Bioethics and/or current trends in biology .

Student Projects:

Each semester students will complete a project that requires them to do independent work and turn in a report.

First Semester:

Inherited Disorders Mini-research paper

As part of the AP biology curriculum you will complete a short research paper (2-3 pg) on one of the thousand inherited disorders. Upon completing this assignment you should be able to demonstrate knowledge of a particular inherited disorder as well as gaining knowledge on how to conduct research and create a bibliography.

Second Semester:

Book Report

You will choose a book from a list of books I have compiled. Many are classics Like Darwin's *On the Origin of Species*, while others are more recent in publication such as Peter D. Ward's *Gorgon*. In addition to the non-fiction books on the list, I have added a few fiction/ science fiction books for you to choose from. After reading the book you will write an essay discussing the book in relation to the eight themes, as well as commenting on the author's style and how well they made their point. If you choose to read a fiction book you have a tougher assignment. In addition to the above requirements, you also must analyze the science in the book and compare good vs. bad science. An additional component of this assignment is to create an original book cover for your book.

This will be completed over Winter Break.

Bioethics Research Paper

You are required to complete a research paper on a current bioethical issue. Upon completing the paper, your knowledge of a biological topic and the problems/ concerns it presents affecting society will be broadened. You will gain increasing knowledge on how to conduct research and write an effective paper. Student papers are generally six to eight pages in length and discuss a variety of topics including; stem cell research, epigenetics, and responsibilities scientists have to the public. This paper is the culminating assignment for the year. This assignment will allow you to pull together the many topics discussed this year and connect them to something real. In addition to the written paper you will create an 8-10 minute presentation for the class.

