AP Biology
Course Syllabus 2021-2022 - Mrs. Procell
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Course Description

- AP Biology is a lecture, discussion, and lab-oriented course in which you will have the opportunity to take your basic biology knowledge to a much higher level. You will design experiments, carry out college level lab investigations, and prepare to take the Advanced Placement Biology Exam.
- Your teacher will be a guide for your learning experience, a facilitator, event planner, and source of information.
- Other sources of information will be your text, lab manual, journals, simulations, videos, and internet sources.
- Always remember that you are the learner. You are the one who is ultimately responsible for actively preparing yourself for the AP Exam. This takes motivation and commitment.

Big Ideas in Biology

The course is structured to focus student learning in the area of four "Big Ideas"

1. The process of evolution drives the diversity and unity of life.
2. Biological systems utilize energy and molecular building blocks to grow, reproduce, and maintain homeostasis.
3. Living systems store, retrieve, transmit, and respond to information essential to life processes.
4. Biological systems interact, and these interactions possess complex properties.

Goals for Student Learning

Goals and Objectives

At the completion of AP Biology, the student will be able to organize, discuss, interpret, and integrate topics related to:

1. The "Big Ideas" and "Enduring Understandings of biology
2. Scientific experiments and experimental results where students use the 7 science practices
3. Fundamental characteristics of living organisms
4. The relationship between structure and function
5. Chemical processes underlying life processes
6. The complex workings and interrelationships of biological systems
7. The central role of energy in living systems
8. Factors associated with genetic variation in individuals and in populations
9. The role of natural selection in evolution and how biodiversity relates to evolutionary relationships
10. Relation of form, function, and homeostasis/ regulation of internal environments in representative plants and animals

*** Students will also prepare for the National Advanced Placement Biology Exam in May. My goal is to have each of you sit for the exam. There will be a required simulation prior to the National Exam. Everyone will take this simulation, regardless of whether or not you are taking the exam. It is a 3 ½ hour test made in the same format at the AP Exam that will test your ability to integrate the concepts in the "Big Ideas." ***

Course Outline

This is a general overview of the concepts and topics for the year:

Semester 1

Chemistry of Life
The Cell, Membrane & Homeostasis
Cell Communication & Signaling
Mitosis & the Cell Cycle
Energy Transformation Processes
Molecular Genetics/ DNA, RNA, Protein Synthesis
Classical Genetics/ Heredity

Semester 2

Mechanisms of Evolution/ Speciation/ Extinction
Organisms & Systems (Cladistics, Structure and Function)
Human Systems: Endocrine, Nervous, Immune
Defenses/ responses/ Feedback Mechanisms
Ecology/ Population Dynamics, Ecosystems
Animal Behavior/ Human Impact

The course will be aligned with the College Board publication known as the Course Exam and Description Booklet. Each unit can be found within and the key topics and concepts that you will need to master. Each unit is listed below with the exam emphasis on each one.

AP Biology Covers the following Units: See Exam Weighting Below

Unit 1: Chemistry of Life	8–11%
Unit 2: Cell Structure and Function	10–13%
Unit 3: Cellular Energetics	12–16%
Unit 4: Cell Communication and Cell Cycle	10–15%
Unit 5: Heredity	8–11%
Unit 6: Gene Expression and Regulation	12–16%
Unit 7: Natural Selection	13–20%
Unit 8: Ecology	10–15%

AP Biology is designed to prepare you for the National Exam, but it will also give you a college-level experience to the subject of Biology. Don't expect it to be easy. This is a college course, so expect it to be challenging. We use AP Central as a support and guide for learning. Be sure to set up an account to make use of videos, review topics, and practice activities.

Textbook, Materials, Requirements

Text: *Biology in Focus*, AP Edition AND *Biology*, 7th Edition by Campbell

Recommended: Pearson Test Prep Series for AP Biology, 5th Ed. by Holtzclaw, 2014

Requirements

- Read the text and complete chapter study guides and other related assignments. STUDY ON YOUR OWN!!
- Come to class prepared, not only with completed assignments, but ready to discuss and ***take more notes***.
- Prepare flash cards and study vocabulary terms on your own. STUDY THEM ON YOUR OWN!!
- Prepare selected note summaries on image note library packets and other work as assigned.
- Bring a notebook with loose-leaf paper for note-taking during class discussions. ***Expect to write*** as we discuss.
- Keep notes and handouts in a BINDER, NOT A FOLDER.
- Pre-read labs and type a lab protocol before each one. Complete all labs on time. Once they are returned, keep them in a 2-3 inch lab binder at home to study for unit tests, exams, and the AP Exam.
- Please bring headphones/earbuds to class in case we need to view animations or tutorials during class.
- Please purchase a set of ***Tri-plus fine line markers*** for colored note-taking and Image Note Library outlines.
- Turn in your assignments on time. You will need to learn to ***BUDGET YOUR TIME***.
- Take the AP Simulation 4th quarter whether you are taking the AP Test, or not. It is part of your 4th Qtr grade.

HCPS Grading Policy

Your grade will be based on assignments that fall into three weighted categories: Assignments in the Product category will make up 50% of your grade, Process assignments will account for 30%, and Practice Assignments will account for the final 20%. ***Practice*** assignments help you to **practice** skills and **reinforce** your learning. ***Process*** assignments will give a good indication of your **growth** toward an end goal, and the ***Product*** portion of your grade measures how well you have mastered the learning goals and standards. You will have many opportunities for success, so please don't sweat the percentages.

Examples of Product, Process, and Practice		
PRODUCT (50%) *Culminating Demonstration of Knowledge*	**PROCESS (30%)** *Addressing Specific Short-Term Learning Outcomes*	**PRACTICE (20%)** *Building Attitudes, Habits, and Skills*
Summative Assessments	**Formative Assessments**	**Building attitudes, habits, and skills through practice**
• Primarily completed in presence of teacher • Rubric aligned to standards • Accuracy graded	• Could be completed in presence of teacher • Could be aligned to Rubric standards • Accuracy graded	• Graded for completion and/ or participation according to guidelines

Absent Work Policy

All assignments should be submitted on time. Students will be given the number of class periods equal to the number of lawful class periods absent to turn in completed make-up assignments without penalty.

Late Work Policy

All assignments should be submitted on time in order to earn full credit. Any assignment, *(product, process, or practice)* will be allowed to be turned in late for one letter grade deduction from the grade a student earns on the assignment. *In order to earn credit for late assignments, students must submit assignments by the end of the day on Wednesday following the designated HAC update (except for the last week of the quarter).* Students are only able to submit assignments that have an established due date within the grading window before the designated HAC update. This means that *previous assignments (from previous HAC updates) that were never turned in will not be accepted*. Assignments that are turned in for late credit will be identified by a footnote in HAC to include a statement about the deduction of a letter grade due to the lateness of the assignment.

Grading Window	Designated HAC Update	Late Work Due Date
September 8- September 24	September 24	September 29
September 27- October 13	October 13	October 20
October 14- October 29	October 29	November 5 (Friday)
November 8- November 19	November 19	November 24
November 22- December 10	December 10	December 15
December 13- January 13	January 13	January 21 (Friday)
January 24- February 11	February 11	February 16
February 14- February 25	February 25	March 2
February 28- March 11	March 11	March 16
March 14- March 25	March 25	March 31 (Thursday)
April 1- April 22	April 22	April 27
April 25- May 6	May 6	May 11
May 11- May 20	May 20	May 25

Academic Integrity

Academic integrity is taking responsibility for the quality and completion of one's own work. Academic dishonesty is taking someone else's work and claiming it as one's own. Students at Bel Air High School are responsible for knowing what is considered to be "academic dishonesty" and the subsequent consequences. More information can be found in the BAHS Student Planner. Academic dishonesty can involve, but is not limited to:

- Copying on tests, labs, classwork, and homework
- Plagiarism of published works (including Internet resources)
- Multiple submission of work previously turned in for a grade by another student.
- Giving answers to a test or homework

- Discussion of test materials with others
- Using electronic devices to communicate any contents of homework, tests or quizzes
- Using electronic devices *without teacher permission* to acquire information

- Academic dishonesty is engaging in ANY activity that will give you an unfair advantage over others.
- All students involved will have to bear the consequences described in the student planner, including the student who knowingly supplied answers.
- All students will receive a zero on the assignment; it may not be made up; extra credit will not be given.

Be careful not to take on too many activities. AP classes are rigorous. There will be more work and more difficult tasks, so earning an "A" may not come as easy as it has in the past. If you find yourself in the position where you feel you have to do something dishonest to get the grade you want, then that means you need to make some different choices about what you are doing with your time. And ultimately, what is more important is what you have learned. You will get out of this course what you put into it.

Cell Phone Policy

- Students will place their cellphones in a teacher designated area (on *silent* or *off*) as they enter each classroom. Teachers will review with students the specific location for each room. The phones will remain in the teacher designated area unless teachers explicitly tell students to take out the phones for instructional use.
- Cellphones will remain in the teacher designated area during bathroom visits, assemblies and trips to the nurse/counseling office/main office.
- Cellphones will be retrieved from the teacher designated area at the end of class at the direction of the teacher.
- School-appropriate cellphone use is permitted during class changes and lunch. Students are not permitted to make phone calls during school hours.
- If the cell phone policy is violated, it is a referable offense.

Additional Information

Evaluation/ Assessments

Most ***test questions*** have been taken from previous AP tests given by the College Board. My role is to give you the appropriate background to enable your success. Each test is structured as an actual AP test. There will be 1 – 3 essay questions and approximately 35 - 40 multiple choice type questions. Occasionally there will be "grid-in" questions. This will familiarize you with the test format, and the actual amount of time you will have when you take the AP test in May. To help you feel more secure and develop a large number of essay outlines to study, I may give a list of some possible essay questions about one week before a test. Your task is to develop outlines for each essay. One of those questions will be the essay question on the unit test. ***The scheduled Simulation of the AP Biology Exam is on Saturday May 7th from 8:00 am to 12:30 pm.*** You will take this whether you sign up to take the actual test or not. Please place this on your calendar.
The College Board requires that students taking AP Biology perform ***certain specific labs***. Content, concepts, and data sets from these labs will show up on tests and exams. Please make every effort to attend each lab. If you miss a lab, you will not understand the concepts, and when you do the make-up lab, it could provide difficulty.
We will have ***unit help sessions*** and ***test question reviews*** during ***second semester*** to help prepare for the AP Test in May. Please take advantage of these extra help sessions!

Why take AP Biology?

AP Biology prepares you for the kind of work that you will have in college. The reading levels, the type of critical thinking and questioning, the lab activities, and the problems posed are designed to help you think and reason on a more mature level. This type of thinking helps increase problem-solving pathways in your brain, and the activities will improve your ability to score well on all types of exams. Don't expect it to be easy. If I make suggestions on how to change a response so that you can earn a higher score, then make those changes. I will work many days after school on practice questions and re-writing free responses.

OFFICE HOURS: I am available for help Wed – Fri after school by *appointment.* I won't know you need help unless you tell me, so don't hesitate to ask. Please ask! 😊