



Biology
Course Syllabus 2020-2021
Ms. Snell
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Course Description

Biology is the study of life. The major units of study in this course will focus on the characteristics and chemical basis of life, cells and systems, the processes and transformation of energy within these living systems, DNA and the inheritance of traits, the uses and ethical aspects of applied genetics and biotechnology, evolution, the inter-relationships of cells, organs, systems, and organisms with each other and with the environment, and human impact on living systems and the environment. Throughout all of these units, we will reinforce the three dimensions of science learning: the Disciplinary Core Ideas, the Cross-cutting Concepts, and the Practices of Science.

Goals for Student Learning

Seven **Cross-cutting Concepts** will be stressed throughout the year:

- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Systems and system models
- Energy and matter
- Structure and function
- Stability and change

These are interwoven with the **Science and Engineering Practices**:

- Asking questions and defining problems
- Developing and using models
- Planning and carrying out investigations
- Analyzing and Interpreting Data
- Using mathematics and computational thinking
- Constructing explanations and designing solutions
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

The Science and Engineering Practices describe what scientists do to investigate the natural world and what engineers do to design and build systems. The practices better explain and extend what is meant by “inquiry” in science and the range of cognitive, social, and physical practices that it requires. Students engage in practices to build, deepen, and apply their knowledge of core ideas and crosscutting concepts.

Disciplinary Core Ideas of content are the **NGSS: Next Generation Science Standards** and can be found at the following link: <https://www.nextgenscience.org/overview-topics>

Disciplinary Core Ideas are listed below:

- Structure and Function
- Matter and Energy in Organisms and Ecosystems
- Interdependent Relationships in Ecosystems
- Inheritance and Variation of Traits
- Natural Selection and Evolution

Textbook and Materials

- Lined loose-leaf paper/notebook
- Pen or a pencil
- Folder/binder

Other materials that may be needed:

- highlighter

Course Outline

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

- *Introduction to Biological Systems*
How does science work? What are the characteristics of life? What is the Chemical basis of life?
- *Cells, Systems, and Homeostasis*
Cells, processes, and systems: How do cells and systems respond to stimuli to maintain a balance? How do cells reproduce to maintain the continuity of life?
- *Matter and Energy*
How do the structures and processes of cells allow life to obtain energy, grow, and reproduce?
How is matter and energy transformed by cellular processes through living things and the environment?
- *Molecular and Applied Genetics*
What is the structure and function of DNA? How do DNA, heredity, and the environment affect the development of offspring and future generations in populations?
- *Evolutionary Biology*
How and why do favorable traits increase in a population to cause that population to evolve?
What is the evidence to show relatedness of all species on earth? Why is there unity and diversity?
- *Ecosystems, Biodiversity, and Human Impact*
What interactions between living and non-living things have evolved within ecosystems? How have humans impacted the living and non-living environment?

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%) <i>Culminating Demonstration of Knowledge</i>	PROCESS (30%) <i>Addressing Specific Short-Term Learning Outcomes</i>	PRACTICE (20%) <i>Building Attitudes, Habits, and Skills</i>
Summative Assessments	Formative Assessments	Building attitudes, habits, and skills through practice
<ul style="list-style-type: none"> Primarily completed in presence of teacher Rubric aligned to standards Accuracy graded 	<ul style="list-style-type: none"> Could be completed in presence of teacher Could be aligned to Rubric standards Accuracy graded 	<ul style="list-style-type: none"> Graded for completion and/or participation according to guidelines
<p style="text-align: center;"><u>Examples</u></p> <ul style="list-style-type: none"> Unit tests/exams/quizzes Investigations/Formal lab reports Lab Practical Exams Long-term projects Essays Presentations 	<p style="text-align: center;"><u>Examples</u></p> <ul style="list-style-type: none"> Quizzes CER writing – Claim, Evidence, Reasoning Socratic Seminar Short-term projects Problem Solving Data evaluation Internet animations 	<p style="text-align: center;"><u>Examples</u></p> <ul style="list-style-type: none"> Homework Exit questions/closure responses Collaborative work Graphic organizers, warm-ups Vocabulary building Peer- Reviews

*These are *just some examples* of assignments that could be placed in each category. Some assignments may fall into *more than one category* depending on the intent of the assignment. The assignments are subject to change at the teacher’s discretion as the year progresses.

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. If a student is unlawfully absent, work will be accepted with a penalty of one letter grade off the assessed value.

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 (except for the last week of the quarter) following **ANY** HAC update. Students are only able to submit assignments that have an established due date within the grading window before the HAC update. 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
September 8- September 24	September 24
September 27- October 13	October 13
October 14- October 29	October 29
November 8- November 19	November 19
November 22- December 10	December 10
December 13- January 13	January 13
January 24- February 11	February 11
February 14- February 25	February 25
February 28- March 11	March 11
March 14- March 25	March 25
April 1- April 22	April 22
April 25- May 6	May 6
May 11- May 20	May 20

Extra credit opportunity

At the end of each quarter, students can earn extra credit by bringing in ALUMINUM cans and tabs from aluminum cans. Students will receive a point for every pound of cans they bring in. If the student also brings the aluminum tabs from the cans, they will receive an extra point of a point per pound of tabs. Students must bring in their own (no other student or parent other than the student receiving credit) tabs/aluminum. The date for turn in will be given to the students 2 weeks prior to the end of the quarter. **TABS/ALUMINUM WILL NOT BE ACCEPTED AFTER 7:20!!** The extra credit points received will be added to the student's practice grade at the end of the quarter

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.

Cell Phone Policy

- Students will place their cellphones in a teacher designated area 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

***** I will be available for any extra help that you may need in order for you to succeed during the course of the year. Please do not hesitate to ask.*****

Extra help hours: Monday-Wednesday, Friday 6:45am-7:20am

I have read and understood all of the information on the syllabus.

Parent signature: _____ Date: _____

Student signature: _____ Date: _____