AP Biology
Course Syllabus
2019-2020

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Course Description:
AP Biology is a college-level introduction to the Biological Sciences. It is intended as a survey of the many fields of study that comprise “biology.” At the end of the course, students take the AP Biology exam, administered by the College Board. A sufficient score on this exam makes a student eligible for college credit. Since this is a college-level course, students should expect an accelerated pace of class and a workload similar to what would be encountered in college.

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.

AP Biology Science Practices:
1. Concept Explanation: Explain biological concepts, processes, and models presented in written format
3. Questions and Methods: Determine scientific questions and methods.
4. Representing and Describing Data: Represent and describe data.
5. Statistical Tests and Analysis: Perform statistical tests and mathematical calculations to analyze and interpret data.

General Outline of Units:
Unit 1: Chemistry of Life: Properties of Water, Macromolecules, Structure of DNA and RNA
Unit 2: Cell Structure and Function: Cellular Components, Cell Membrane, Osmosis and Diffusion
Unit 3: Cellular Energetics: Enzymes, Metabolism, Photosynthesis, Cellular Respiration
Unit 4: Cell Communication and Cell Cycle: Signal Transduction, Feedback Mechanisms
Unit 5: Heredity: Meiosis, Mendel’s Laws and Probability, Non-Mendelian Inheritance
Unit 6: Gene Expression and Regulation: Gene to Protein, Eukaryotic Genomes, Biotechnology
Unit 7: Natural Selection: Evolution of Populations, Speciation, Phylogenetic Trees and Cladograms

You will need to print out and complete reading guides for each chapter, and use them to study for unit exams. All reading guides are posted on my website.

What You Need!

Values & Expectations:
1. Discipline yourself so no one else has to.
2. Be respectful to others, to yourself, and to our resources.
3. Be responsible for your learning—prepare & participate.
4. Uphold University High School expectations.

Materials:
1. 3-ring binder (2-3”)
2. Lined paper & graph paper inside binder
3. Calculator
4. Laboratory Notebook
5. Pencils/pens & colored pencils/markers
You will also need an AP Biology review book, such as Cliffs Notes, Princeton Review, or Barron’s (recent edition, within the last 5 years).

**Grading**
This class is graded on a weighted point system. Each assignment will belong to one of the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Classwork/Labs</td>
<td>30%</td>
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<tr>
<td>Projects</td>
<td>20%</td>
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<tr>
<td>Quizzes/Exams</td>
<td>35%</td>
</tr>
<tr>
<td>Participation</td>
<td>5%</td>
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</tbody>
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A = 100-90%
B = 89-80%
C = 79-70%
D = 69-60%
F = Below 60%

**ATTENDANCE & WORK HABITS**
It will be difficult to succeed if you do not attend our class regularly and if you do not complete the work outside of class regularly, so PLEASE LET ME KNOW if there are any problems affecting your attendance, or work habits outside of class.

If you are absent, you may turn in missed assignments within one day of each absent day to receive full credit. Please try not to be absent on lab days, as they are difficult to make up.

Late work will only be accepted on a case by case basis for 50% credit, up to one week after it is due. Place all late and absent work in the proper basket with your name, date turned in, due date, and reason for missed work.

If you do not write your first and last name on your assignment, you will receive no credit. NO NAME = NO CREDIT.

It will be very helpful to form a study group. You should find a group of friends in class and exchange phone numbers and email. This way if you miss class or are confused by something you can contact them for help.

Homework assignments and updates will be posted on my website daily under the “AP Biology” tab. It is your responsibility to find out what you missed if you are absent.

The best way to contact me is by email. Please do not hesitate to reach out for any extra help or questions!

**Mark your calendars!**
**AP BIOLOGY EXAM DAY: MONDAY, MAY 11, 8:00AM**
3 hours

**Section I:** Multiple Choice | 60 Questions | 1 hour and 30 minutes | 50% of Exam Score

- Discrete questions
- Questions in sets
- Mathematical calculations

**Section II:** Free-response | 6 Questions | 1 hour and 30 minutes (includes a 10-minute reading period) | 50% of Exam Score

- **Long Free-response** (2 questions, both focusing on interpreting and evaluating experimental results; one requires graphing)
- **Short Free-response** (4 questions, each requiring a paragraph-length argument/response. Will focus on scientific investigation, conceptual analysis, analysis of model or visual representation, analysis of data.)