AP Biology Syllabus 2018 – 2019 https://apstudent.collegeboard.org
Instructor: Ms. Lin/S-305/victoria.lin@lausd.net http://msvictorialin.weebly.com/

Course Description (from College Board)

The AP Biology course is designed to enable you to develop advanced inquiry and reasoning skills, such as designing a plan for collecting data, analyzing data, applying mathematical routines, and connecting concepts in and across domains. The result will be readiness for the study of advanced topics in subsequent college courses — a goal of every AP course.

This AP Biology course is equivalent to a **two-semester (or three-quarter) college introductory biology course** and has been endorsed enthusiastically by higher education officials.

The Emphasis on Science Practices

A practice is a way to coordinate knowledge and skills in order to accomplish a goal or task. The science practices enable you to establish lines of evidence and use them to develop and refine testable explanations and predictions of natural phenomena. Because content, inquiry, and reasoning are equally important in AP Biology, each learning objective combines content with inquiry and reasoning skills described in the science practices. The science practices capture important aspects of the work that scientists engage in, at the level of competence expected of you, an AP Biology student.

Organized around Big Ideas:

The key concepts and related content that define the revised AP Biology course and exam are organized around a few underlying principles called the big ideas, which encompass the core scientific principles, theories and processes governing living organisms and biological systems.

Big Idea 1: Evolution. The process of evolution drives the diversity and unity of life.

Big Idea 2: Cellular Processes: Energy and Communication. Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.

Big Idea 3: Genetics and Information Transfer. Living systems store, retrieve, transmit, and respond to information essential to life processes.

Big Idea 4: Interactions. Biological systems interact, and these systems and their interactions possess complex properties.

Exam Description (from College Board)

The exam is approximately three hours long and has two parts — multiple choice and grid-in, and free response. Each section is worth 50% of the final exam grade.

Questions will assess your understanding of the big ideas, enduring understandings, and essential knowledge and your application of these through the science practices. These may include questions on the following:

- the use of modeling to explain biological principles;
- the use of mathematical processes to explain concepts;
- the making of predictions and the justification of phenomena;
- the implementation of experimental design; and
- the manipulation and interpretation of data

Section I: Multiple Choice (1 hour and 30 minutes)

Part A — 63 Multiple Choice Questions
Part B — 6 Grid-In Questions

The grid-in questions focus on the integration of science and mathematical skills. For these responses, you will need to calculate the correct answer for each question and enter it in a grid on that section of the answer sheet.

Total scores on the multiple-choice section are based on the number of questions answered correctly. Points are not deducted for incorrect answers and no points are awarded for unanswered questions.

Section II: Free Response (1 hour and 30 minutes including a 10 minute reading period)

8 Questions (2 long and 6 short)

EXAM DAY: MONDAY, MAY 13, 2019 @ 8:00 AM

Expectations

- As a student in AP Biology, you are expected to be present in class for the entire school year.
- On a daily basis, expect to spend up to two hours studying for this class.
- If you know you will miss class (for sports, interviews, etc.), you must let me know *ahead of time* so that you can receive the work. Failure to get work ahead of time may result in assignments considered late.
- Tutoring will be held most Mon/Wed from 3:30PM - 4:30PM. In addition to these hours, tutoring can be made available during lunch and after school if you let me know ahead of time.
- It is highly recommended that students attend a minimum of 4 AP Readiness sessions at UCLA, held one Saturday per month.
- If you decide that this class is not for you, the last day to drop each semester will be the **Friday of Week 6**.
- You are responsible for keeping track of your grade on Schoology.
- **Academic dishonesty will not be tolerated and will result in a ZERO for any student involved.**

Required Materials

- ☐ Campbell/Reece Textbook – *Biology, 7/8th Ed.*
- ☐ (Campbell Textbook – *Biology In Focus, 1st Ed.*)
- ☐ Raven Textbook – *Biology, 8th Ed.*
- ☐ (Hillis Textbook – *Principles of Life, 2nd Ed.*)
- ☐ Barron's AP Biology Study Guide (or Cliff's, Spark Notes, etc.), most recent edition is preferable
- ☐ Two 3-Ring Binders – at least 1" and 2"
- ☐ Dividers – 6 Tabs (1 Lectures/Notes, 2 Study Guides, 3 Handouts, 4 Labs, 5 Quizzes, 6 Catalysts)
- ☐ Spiral Lab Notebook – College ruled, 70 pages
- ☐ Calculator

Additional Highly Recommended Materials

- ☐ Highlighters
- ☐ Post-its
- ☐ Graph paper
- ☐ 3"x5" Index cards
- ☐ USB flash drive

Grading Scale (tentative, subject to change)

Exams/Quizzes (35%)

There will be an exam at the end of each unit that will test your mastery of the current unit being covered, as well as previous material. There will be frequent reading quizzes that will be announced or unannounced. It is important to keep up with textbook readings. You are allowed to drop two quizzes per semester.

Labs (20%)

Labs will be student-directed, inquiry-based investigations where students model the behavior of scientists by discovering knowledge for themselves. Lab grades will be given for pre-lab assignments, lab notebooks, formal lab reports, and/or mini-posters/presentations. Because of our bell schedule, it is imperative that you are well-prepared and understand the purpose and procedures of each lab prior to running the lab so that no time is wasted. *There may be times where it is required to stay during Advisory, lunch and/or after school to finish labs*. There are **no make-up labs**.

Projects (5%)

You will be periodically assigned individual or group projects. This may include posters, PowerPoint presentations, videos, etc. Grades will be based on quality of project, as well as your presentation and/or participation in group work (if applicable).

Classwork/Homework (15%)

Assignments are due at the beginning of the period. Credit/no credit assignments are stamped, and late work will not receive a stamp. Late assignments that are graded will be deducted 10% of the grade for each late day. No late work will be accepted after it has been graded and passed back (sometimes I pass work back within the period, the next day, or a month later…don't risk it…).

Discussion/Participation (10%)
Class lectures may be held in a discussion-like format. You may be asked to explain concepts throughout the lecture because you are supposed to read the material prior to class. Discussion and participation includes daily warm-ups.

Final Exams (15%)
There will be a final exam at the end of each semester. The fall final exam will cover everything taught up to that point. The spring final exam will be held in a 4 hour session on a Saturday in April and will model the AP Biology exam.

Course Outline

Unit	*Content*	*Big Idea*	*Labs* (Investigation #)	*Reading Chapters*
0	Science Practices	SP	Pill Bug Behavior (12)	1
1	Biochemistry	4	--	2, 3, 4, 5
2	Cell Structure & Transport	2	Diffusion and Osmosis (4)	6, 7
3	Energy	2 2 2	Enzyme Activity (13) Photosynthesis (5) Cellular Respiration (6)	8, 9, 10
4	Cell Communication (Signaling) Cell Division	3	Cell Division: Mitosis and Meiosis (7)	11, 12, 13
5	Mendelian Genetics	3	--	14, 15
6	Molecular Genetics	3 3	Biotechnology: Restriction Enzyme Analysis of DNA (9) Biotechnology: Bacterial Transformation (8)	16, 17, 18, 19, 20
7	Evolution	1 1 1	Mathematical Modeling: Hardy-Weinberg (2) BLAST (3) Artificial Selection (1)	22, 23, 24, 25, 26
8	Organism Form & Function (Animals & Plants) [Physiology]	4	Transpiration (11)	Plants: 35 – 39 Animals: 40 – 49
9	Ecology	4	Energy Dynamics (10)	50, 51, 52, 53, 54, 55

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Student Name: _____

I have read and reviewed the requirements for AP Biology and understand that this class is a college-level course that requires **significant time commitment and preparation**. I accept the grading and make-up policy delineated above and understand that it is my responsibility to complete readings and assignments on time.

_____ _____
Student Signature Date

_____ _____
Parent/Guardian Signature Date

Parent/Guardian Contact (Email and/or phone): _____

Questions/Comments: _____
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