MVLA
2025 - 2026
COURSE INFORMATION SHEET

Course Title: AP Biology
CTE Pathway Sequence (if applicable): N/A
School: Los Altos High School
UC/CSU requirement: Laboratory Science "D" Requirement
MVLA Graduation requirement: 10 credits - life science
Textbook and/or other learning resources: Campbell Biology in Focus, 4e, AP Biology Edition, 2025. Urry, Cain, Wasserman, Minorsky, and Reece. Mastering Biology is a web based accompaniment to the textbook.

Course Description/Student Learning Outcomes:

The AP Biology course is designed to be the equivalent of a college introductory biology course usually taken by biology majors during their first year. The content based components of the *AP Biology Curriculum Framework* (i.e., big ideas, enduring understandings, and learning objectives), are integrated with science practices to achieve conceptual understanding and facilitate scientific inquiry and reasoning.

The abilities described in the science practices are as follows:
•Use representations and models to communicate scientific phenomena and solve scientific problems
•Use mathematics appropriately*
•Engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course
•Plan and implement data collection strategies in relation to a particular scientific question
•Perform data analysis and evaluation of evidence*
•Work with scientific explanations and theories
•Connect and relate knowledge across various scales, concepts, and representations in and across domains.

* Note: A significant shift in the College Board's curriculum for AP Biology is a major emphasis on mathematics and statistical analysis. Quantifying and analyzing data, building predictive models, and mastery of equations that allow for a deeper understanding of biological systems are emphasized throughout the year.

The four big ideas studied in this course are:
1. The process of evolution drives the diversity and unity of life.
2. Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.
3. Living systems store, retrieve, transmit, and respond to information essential to life processes.
4. Biological systems interact, and these systems and their interactions possess complex properties.

The course aims to motivate students to succeed in higher education and the world of scientific work.

Course Outline/Units of Study/CTE Industry Standards(If applicable to your course):

The Syllabus Below is subject to change as necessary and is only meant to give an overview of the topics covered and the time spent on each unit.

Unit	Topics Covered	Chapters Covered	Approximate time required
1 - The Chemistry of Life	• Experimental design • Calculating standard deviation and standard error of the mean • The elements of life and major macromolecules • Carbon chemistry	1, 2, 3	~3.5 weeks
2 - Chemical Evolution	• The chemical evolution of life	4, 5, 35*, 37*, 39*	~4 weeks

and the Cell	• RNA World Hypothesis • The parts and functions of cells • Cell-cell communication • Homeostasis • Neurons and action potential • Muscle function • Immunology		
3 - Cellular Energy	• Redox Reactions • Cellular Respiration • Enzymes	6, 7	~2.5 weeks
4 - The Central Dogma	•Transcription and translation • Regulation of gene expression • Biotechnology	13*, 14*, 15	~4 weeks
5 - The Cell Cycle and Cancer	• DNA Replication • Cell Cycle • Mutations • Viruses	9, 13*, 14*, 17	~1.5 weeks
6 - Meiosis and Genetics	• Meiosis • Genetics and epigenetics • Viruses • Pedigrees • Personalized medicine • Chi-Squared analysis	10, 11, 12, 18*	~3 weeks
7 - Microevolution	• Microevolution • Hardy-Weinberg Equilibrium • Transposons • Reading phylogenetic trees • Bioinformatics	18*, 19, 20, 21	~3 weeks
8 - Macroevolution	• Means of speciation • Radiometric dating		~1.5 weeks
Unit 9 - Ecology	• Simpson's Diversity Index	Reading and assignments will be outside of the textbook.	~1 week
Unit 10 - Plants and Photosynthesis	• Photosynthesis • Plant structure • Tension-Cohesion Hypothesis • Pressure-Flow Hypothesis	8, 29*	~2 weeks

* Only part of the chapter will be covered

Assessment and Grading (BP 5121 / AR 5121**):** To ensure that every student has an equal opportunity to demonstrate their learning, the course instructors implement aligned grading practices and common assessments with the same frequency.

1. **Grading categories and their percentage weights:**

40%: Tests
30%: Labs and Activities
20%: Homework and Classwork (Mastering Biology/AP Classroom)
10%: Final Exam/Final Project

Grade Book Update Policy: grades will be posted every 2 weeks on the Student Information System (SIS)

2. **Achievement evidence collected within each grading category:**

The "Tests" category includes unit exams and quizzes.
The "Classwork" category includes lab reports, projects, and other in class activities.
The "Mastering Biology/AP Classroom" category consists of homework completed on these online platforms that are utilized over the course of the school year.

Proficiency is determined by how well a student achieves the expectations for an assignment.

3. **Grading scales:**

A = 90.00 - 100.00%
B = 80.00%-89.99%
C = 70.00%-79.99%
D = 60.00% - 69.99%
F = 59.99% and below

4. **Homework/outside of class practices (AR 6154):**

Nightly homework could include reading, taking notes, worksheets, utilizing the Mastering Biology online resource, lab reports, researching topics online, watching videos online, and/or reviewing for quizzes/tests.

5. **Excused absence make-up practices (Education Code 48205(b)):**

The amount of time students will be provided to make up assignments missed due to excused absence(s) will be equal to the amount of days missed. AP Biology is a fast paced course. It is difficult to experience a high level of success if you are unable to manage your time effectively. Assignments and announcements are all posted in the learning management system (Google Classroom). Please make sure to check these resources during your absence and email the instructor with questions. All assignments during distance learning are to be completed electronically.
If you miss only your AP Bio class on exam day without a bonafide, documented excuse (doctor's appointment, counselor's appointment, etc.) you will not be allowed to make up the test. There are students who habitually skip AP Bio on exam day, and it's not fair to the students who show up regardless of how well prepared they feel for the exam.

6. **Academic integrity violation practices (LAHS Academic Integrity Policy):**

Students will be held to a high standard of academic integrity and school academic integrity policies will be adhered to. Any assignments for which you are determined to be in violation will result in a permanent zero for that assignment.

7. **Late work practices:**

Late work is highly discouraged. Assignments in the "Homework and Classwork" category (including **Mastering Biology and AP Biology assignments) will not be accepted late.** Assignments in the **"**Labs & Activities" category will be accepted up to 48 hours late. If your assignment is turned in within 24 hours of the original due date you will receive 80% of the points earned. If your assignment is turned in after 24 hours and no later than 48 hours after the due date, you will receive 60% of the points earned.

8. **Revision practices:**

Revisions on laboratory reports, other written assignments, and anything assigned through Mastering Biology and AP Classroom are not an option in AP Biology. Students are encouraged to take advantage of the Academic Tutorial Period (ACT) prior to the assignment due date to review responses to any writing prompts.

9. **Extra credit practices:**

There are no extra credit opportunities in AP Biology.

10. **Additional grading practices:**

In AP Biology, a system of test corrections has been established called “Correct to Learn.” Known as C2Ls, students are provided the opportunity to reanswer and explain test items answered incorrectly for the multiple choice portion of any given exam (this does not include quizzes or written portions of exams). These are offered at the teacher’s discretion. Students are provided the test booklet, a textbook, and a template to complete their corrections. Students earn 40% of the points back for items answered correctly. C2Ls must be completed outside of instructional time.Once exams are returned, students will have three weeks to complete their C2Ls. Corrections will not be allowed after that time. We strongly recommend that C2Ls be completed during Academic Collaboration Time (ACT) periods.

11. **LMS used:**

AP Biology uses Google Classroom as its LMS. Assignments and materials for any given unit will be organized under a single topic heading.

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