



## 2023-2024 Ms. RILEY'S AP BIOLOGY COURSE SYLLABUS



WELCOME TO AP BIOLOGY! GET READY TO GROW!

### CONTACT INFORMATION

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### COURSE DESCRIPTION

AP Biology is a rigorous college biology course taught in high school. It is designed to be the equivalent of a two-semester college introductory biology course for biology and life science majors (biochemistry, bioengineering, forensics, marine science/biology, anthropology, zoology, botany, animal science, physical education, etc.). Students are expected to learn not by memorization of facts, but through content and concept application via the AP Biology science practices. Inquiry laboratory experiences are a substantial component of this course, requiring students to apply their content knowledge to novel scientific questions. The course covers a vast amount of material in a limited amount of time and thus makes heavy demands on even the best-organized student. You will use a college textbook and explore the complex and exciting world of biology by performing college level laboratories. AP Biology will help you develop the academic and scientific skills necessary to be successful in college and beyond! At the end of the year, the students are given a standardized exam which will determine their eligibility for advanced placement and/or credit in college biology courses.

### AP BIOLOGY EXAM 2024

The **AP Biology exam** is scheduled for **May 16, 2024 at 12:00pm noon**. The exam is 3 hours long and consists of 60 multiple choice questions (MCQs) and 6 free-response questions (FRQs). The exam assesses student understanding of the science practices and learning objectives outlined in the college board [course framework](#). **All AP students are expected to take the exam, and exam fees are covered by the district.**

### MATERIALS NEEDED\* - PLEASE BRING TO CLASS DAILY

- Laptop computer & charger
- Writing utensils (pencils, pens)
- College-ruled composition book (lab notebook)
- Calculator ([College board approved](#))
- Binder or folder to organize handouts
- Additional study materials recommended: post-it notes, colored pens

*\*If obtaining any of these materials presents a challenge, please see Ms. Riley.*

### GRADING POLICIES

Each assignment will be given a point value within an assignment category. Assignment categories will be weighted using the following scale to determine the final semester grade:

- **Formative Assessments (25%)**  
*Homework, labs, quizzes, practice FRQs, etc.*
- **Summative Assessments (60%)**  
*Unit exams (multiple choice & free-response questions)*
- **Semester Final Exam (15%)**

### GRADING SCALE

The following percentage calculations will determine the final grade, per district policy:

Score	Final Grade
89.5 – 100%	A
79.5 – 89.4%	B
69.5 – 79.4%	C
59.5 – 69.4%	D
50 – 59.4%	F

## ABSENCES & LATE WORK POLICY

This is a fast-paced, rigorous course with a significant lab component, and it is critical that students attend and participate in all class meetings. However, I understand that sometimes there are circumstances outside of your control that may prevent you from attending class, including illness. If you need to miss a class for any reason, please make sure the absence is officially excused with the attendance office and please notify Ms. Riley in advance, or as soon as possible. We will work together to make arrangements for you to make up missed classwork and laboratory work (whenever possible), and to receive information and directions given in class. Please check Google Classroom for any slides, assignments, and/or materials posted during your absence.

**This is an AP level science course, taken by CHOICE. Personal responsibility and commitment to staying on pace with your independent work (homework and studying) is CRUCIAL to your success in this course! All work is expected to be turned in on time, by the deadline for the assignment.**

Late work will *automatically result in a 30% point reduction* and will ***not*** be accepted *more than 2 class periods late*, unless it was due to an officially EXCUSED absence OR an extension was requested and mutually agreed upon with Ms. Riley in advance. **Any work submitted in Google Classroom must be marked done/turned in BEFORE the posted deadline time. Work submitted at or past the deadline date/time in Google Classroom is considered late, even if it is submitted later that same day.**

## CLASS EXPECTATIONS

**We are a TEAM in this class, and we take COLLECTIVE RESPONSIBILITY. As a member of our team, please be:**

- **PREPARED. *This means:*** Beginning the Warm Up when the bell rings. Coming to class prepared each day with all materials and with all assignments completed on time. Creating and implementing plans for completing independent work and for studying. Maintaining an organized binder/folder and lab notebook.
- **RESPECTFUL. *This means:*** Interacting with classmates, instructors, and guest speakers in a respectful, kind manner. Knowing that we are all different and valuing the power of that diversity in our abilities to learn from one another and grow together. Assuming that others have the best intentions and seeking to understand first. Disagreeing respectfully. Respecting the classroom property and materials at all times by keeping desk/lab station materials clean and orderly, and reporting any issues promptly to Ms. Riley.
- **ENGAGED. *This means:*** Actively learning by taking notes, doing assigned work, and giving full attention at all times while in class. Removing ear buds upon entering class and keeping cell phones on silent and out of sight, unless permission has been given by Ms. Riley for a specific educational use. Participating actively in class discussions. Asking and answering questions. Staying on task and engaged, and using time efficiently during labs and group work. Using laboratory materials and technology in ways that are safe and appropriate.

## ACADEMIC DISHONESTY

Any assignment content composed by any resource other than you, regardless of whether that resource is human or digital, must be attributed to the source through proper citation. Academic dishonesty includes (but is not limited to) copying someone else's work or using the work of AI (like ChatGPT) and presenting it as your own, cheating/looking at another student's test/quiz, plagiarizing, using lab data that you did not contribute to (without prior teacher permission), or allowing another student to copy your work. **Academic dishonesty is wrong, unethical, and immoral. It erodes community and respect.** "Working together" should never produce two assignments that are word-for-word the same. Please *do* work together with your classmates, BUT ALWAYS, ALWAYS, ALWAYS respond with your own thoughts, understandings, and words! Consequences for academic dishonesty may include but are not limited to: Any students involved receiving a "0" on the assignment, and parent and administrative notification.

**You are expected to do your OWN work, IN YOUR OWN WORDS (unless otherwise instructed), obtain permission to use colleagues' data, and evaluate your performance and that of your peers with honesty and integrity.**

## ADDITIONAL ASSISTANCE

This is a rigorous course and we are a team and a family! I am here to coach and support you to the best of my ability. If you need additional support, please don't hesitate to ask. I will be available each week after school on Tuesdays for AP Biology tutorials (or by appointment at other times). ***You matter. I believe in you. Yes, you can.***

# AP BIOLOGY TEXTBOOK

Course textbook: Urry, Lisa A., et. al (2020). Campbell Biology in Focus (3rd edition) Pearson, New York, NY.

Students will be expected to actively read and take handwritten notes from the textbook on a regular basis, as part of their preparation for class. Every unit will have assigned reading and notes. Quizzes will take place each week to assess the previous week's assigned topics from readings, class discussions, and laboratories.

## UNITS & CONTENT OUTLINE

UNIT	1. Intro to AP Bio & Chemistry of Life	2. Cell Structure and Function	3. Cellular Energetics	4. Cell Communication and Cell Cycle	5. Heredity	6. Gene Expression and Regulation	7. Natural Selection	8. Ecology
<b>Big Ideas Qs</b>	<p>-What is the role of energy in the making and breaking of polymers?</p> <p>-How do living systems transmit information in order to ensure their survival?</p> <p>-How would living systems function without the polarity of the water molecule?</p>	<p>-Defend the origin of eukaryotic cells.</p> <p>- How do the mechanisms for transport across membranes support energy conservation?</p> <p>-What are the advantages and disadvantages of cellular compartmentalization?</p> <p>-How are living systems affected by the presence or absence of subcellular components?</p>	<p>-How is energy captured and then used by a living system?</p> <p>-How do organisms use energy or conserve energy to respond to environmental stimuli?</p>	<p>- In what ways do cells use energy to communicate with one another? Why and how do cells communicate?</p> <p>-How does the cell cycle aid in the conservation of genetic information?</p>	<p>-How is our understanding of evolution influenced by our knowledge of genetics?</p> <p>-Why is it important that not all inherited characteristics get expressed in the next generation?</p> <p>-How would Mendel's laws have been affected if he had studied a different type of plant?</p> <p>-How does the diversity of a species affect inheritance?</p>	<p>-How does gene regulation relate to the continuity of life?</p> <p>-How is a species' genetic information diversified from generation to generation?</p>	<p>-What conditions in a population make it more or less likely to evolve?</p> <p>-Scientifically defend the theory of evolution.</p> <p>-How does species interaction encourage or slow changes in species?</p>	<p>-How does diversity among and between species in a biological system affect the evolution of species within the system?</p> <p>-How does the acquisition of energy relate to the health of a biological system?</p> <p>-How do communities and ecosystems change, for better or worse, due to biological disruption?</p> <p>-How does a disruption of a biological system affect genetic information storage and transmission?</p> <p>- How do species interactions affect the survival of an ecosystem?</p>
<b>Chapters in Biology in Focus</b>	Ch. 2-3	Ch. 4, Ch. 5.1-5.5, Ch. 25.1	Ch. 6-8	Ch. 5.6, Ch. 31.1, 31.4, Ch. 35.2-35.3, Ch. 37.4, Ch. 33.5, Ch. 9	Ch. 10-12	Ch. 13-16, Ch. 17.1-17.2, Ch. 18.2-18.6	Ch. 19-24	Ch. 39-43
<b>Approx. # of Weeks</b>	2.5	3	4	3	3	3.5	4	3

