



CHELMSFORD HIGH SCHOOL

AP BIOLOGY SYLLABUS

2023-2024

COURSE DESCRIPTION

10 Credits (#22013), Grades 10, 11, 12, Lab-based

This second year Biology course will be an enrichment of the major concepts from first year Biology. This will be a fast-paced, intensive study of selected topics in Biology as set forth by the College Board. The course emphasizes the unifying themes in biology, showing the connections between the different areas of study. AP Biology is designed for highly motivated science students who intend to pursue a science related major in college. Students in this course should be prepared for some independent learning due to the volume of material covered. In addition to in-class discussions, laboratory experimentation, and independent learning, students will have an opportunity for peer share learning. The course will also emphasize techniques in preparation for the AP Biology exam in May.

Students will be required to complete summer homework prior to the beginning of the academic year. Homework Requirements: Students are expected to read chapter material prior to in-class discussions. Nightly homework will average 1 to 2 hours.

Prerequisite(s): Prerequisite: Success in Honors Biology or teacher recommendation from CP Biology, concurrent enrollment Honors Chemistry Course or completion of Chemistry course

REQUIRED TEXTS

Biology How Life Works Morris et al, 1st Edition

COURSE GOALS and STUDENT LEARNING OUTCOMES:

By the end of the course, students will be able to...

- Describe the process of evolution drives the diversity and unity of life.
- Explain how biological systems use energy and molecular building blocks to grow, reproduce, and maintain dynamic homeostasis.
- Describe how living systems store, retrieve, transmit, and respond to information essential to life processes.
- Describe how biological systems interact, and these systems and their interactions exhibit complex properties.

COURSE STANDARDS

[Link to AP Biology Course and Exam Description](#)

PERSONS WITH DISABILITIES

Chelmsford High School is committed to supporting the success and well-being of all students, regardless of varying abilities and levels of adaptive skills. The Special Education office provides services and resources to empower each student to attain their highest level of academic success and learning independence.

ACADEMIC INTEGRITY

At Chelmsford High School, students are expected to maintain high moral and ethical standards, as exemplified by the final sentence of our mission statement: *"A spirit of respect is fostered, as members take responsibility for their actions and acknowledge the rights and differences of others."* (CHS Mission Statement)

Students should respect themselves, other students, staff members and the school. The acts of cheating and plagiarism violate expectations that students will exhibit respectful, ethical behavior.

[The Academic Honor Code](#) exists to address the issues of cheating and plagiarism.

GRADING POLICIES

Please connect with individual teachers for specific information regarding grading. Students will be able to monitor academic progress biweekly through X2/ASPEN.

Students are strongly encouraged to take advantage of the academic support programs and services (such as PRIDE Block, after-school help, etc.) available to them to help ensure and support success. Information about these services can be provided by your teacher, guidance counselor, or administration.

COURSE SKILLS

The following skills are addressed in this course:

1. Concept Explanation: Explain biological concepts, processes, and models presented in written format.
2. Visual Representations: Analyze visual representations of biological concepts and processes.
3. Questions and Methods: Determine scientific questions and methods.
4. Representing and Describing Data: Represent and describe data.
5. Statistical Tests and Data Analysis: Perform statistical tests and mathematical calculations to analyze and interpret data.
6. Argumentation: Develop and justify scientific arguments using evidence.

COURSE OUTLINE

AP Biology is divided into 8 units:

Unit 1: Chemistry of Life

Unit 2: Cell structure and function

Unit 3: Cellular Energetics

Unit 4: Cell Communication and Cell Cycle

Unit 5: Heredity

Unit 6: Gene Expression and Regulation

Unit 7: Natural Selection

Unit 8: Ecology

This syllabus and course outline are subject to change as Chelmsford High School seeks to continually improve the learning experiences for all students.

“We foster PRIDE* in our pursuit of excellence.”

PRIDE refers to our five core values – Perseverance, Respect, Integrity, Dedication, and Empathy. These five pillars represent our points of emphasis in supporting the development of quality students and quality citizens.