CHELMSFORD HIGH SCHOOL

Biology CP/H SYLLABUS
2023-2024

COURSE DESCRIPTION

This first year Honors Biology course is designed to prepare students for the next generation of science standards and practices. The high school biology content standards build from middle school and allow grade 9 or 10 students to explain additional and more complex phenomena related to genetics, evolution, the functioning of organisms, and interrelationships between organisms, populations, and the environment. There are significantly higher academic expectations of students in honors level courses. Students are required to complete daily homework assignments and are expected to be more independent and highly motivated. Frequent laboratory exercises, designed to correlate with text materials, provide students with opportunities to learn and use techniques and equipment associated with biological research. Independent reading, research and writing assignments extend learning beyond the classroom. Students are expected to take the MCAS Biology assessment in the spring.

Prerequisite for Honors: Recommendation of Environmental Science teacher; incoming freshman must have term average of 93 or higher in 8th grade science and 3 of the following: Benchmark average in the exceeding range, placement into honors math, advanced score on the grade 7 ELA MCAS Exam, teacher recommendation

REQUIRED TEXTS

MIller & Levine Biology, 2019, Published by Pearson Prentice Hall ISBN-13:978-0-328-92512-4

COURSE GOALS and STUDENT LEARNING OUTCOMES:

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

- Complete discussion of state standards
- Demonstrate knowledge and understanding of key concepts from the Biology State Frameworks
- Execute laboratory experiments related to the key concepts from the Biology State Frameworks
- Engage in collaborative learning in each of key concepts from the Biology State Frameworks
- Use the tool of Claim Evidence and Reasoning to demonstrate concept knowledge
- Use models to demonstrate concept knowledge

COURSE STANDARDS

DESE STANDARDS LINK: https://www.doe.mass.edu/frameworks/scitech/2016-04.pdf

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. Asking scientific questions related to biological science
2. Developing and using models of biological concepts and processes
3. Explaining biological concepts and processes through models and in written format.
4. Planning and carrying out investigations
5. Analyzing and interpreting quantitative data through mathematical calculations
6. Analyzing and interpreting qualitative data in a written format
7. Develop and justify scientific arguments using qualitative and quantitative evidence
8. Constructing explanations (for science) and designing solutions (for engineering)
9. Engaging in argument from evidence
10. Obtaining, evaluating, and communicating information

COURSE OUTLINE

Biology is divided into 7 units:

Unit 1: The Science of Biology
Unit 2: The Chemistry of Life
Unit 3: Ecology
Unit 4: Cells
Unit 5: Heredity and Traits
Unit 6: Evolution
Unit 7: Body Systems

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.