

Montclair High School

Course Syllabus

Department: Science

Course: Biology

Level: Honors

Credits: 5

Course Description:

This course is a contemporary study of life on earth. Current topics are incorporated into the text and laboratory investigations. The major theme is the variety and continuity of life. Primary emphasis in this course will be on developing an understanding of concepts rather than on memorizing terms and technical details. Cell's structure, chemistry and physiology as well as genetics are taught in the first semester. Second semester encompasses diversity and physiology of organisms as well as ecology. Evolutionary relationships are taught in both semesters.

Standards:

The Biology Curriculum is aligned with the NJCCCS: 5.1 A (1-3), 5.1 B (1-3), 5.1 C (1-3), 5.1 D (1-4), 5.3 A (1-2), 5.3 B (1-2), 5.3 C (1-3), 5.3 D (1-3), 5.3 E (1-2)

Anchor Text(s): N/A

Supplementary Materials:

- Educational videos
- Internet activities
- Articles from journals
- Case studies
- Magazines and newspapers

Units of Study:

- Science as Process
- Evolution
- Energy Transfer
- Continuity and Change
- Relationship of structure to function
- Regulation
- Interdependence in nature
- Science, Technology and Society

Proficiencies:

By the end of this course, students will:

- Distinguish between living and non-living things.
- Explain the importance of chemistry to the study of biology.
- Explain the structural and functional differences between DNA and RNA.
- Explain the basic principles of Mendelian genetics and their application.
- Summarize the ecological role of various organisms.

- Explain the interrelationships between organisms and their environment.
- Demonstrate safety when working in the laboratory setting, including handling of materials and solutions, microscopes, dissection tools and glassware, and proper disposal of wastes.

Evaluation & Assessment:

- Tests/ Quizzes 30%
- Case work 35%
- Activities 35%

Prior to beginning any lab activities, all students must have submitted a Safety Contract which has been duly signed by both the student and their parent/guardian. This contract will be kept on file by the teacher for the duration of the course.