AP® Biology
Syllabus 4

EXPECTATIONS

AP® Biology is both a hard and a fun course. It provides students with an opportunity to develop a conceptual framework for modern biology, emphasizing applications of biological knowledge and critical thinking to environmental and social concerns. This is a college-level course, and students will be held to high expectations and mature responsibilities just like a college freshman taking Introduction to Biology.

GOALS OF THE COURSE: THEMES AND CONCEPTS

The AP Biology Examination continues to emphasize the concepts and themes of biology. Less weight is placed on specific facts than on the "big ideas" that tie them together. There are two major goals of AP Biology: (1) to enable students to develop a real understanding of the principal concepts in biology and (2) to experience science as a process of problem solving and discovery.

AP Biology at our school accomplishes these two goals in the following way. Each unit is organized and taught with great attention paid to the *themes* below. Lessons are designed to highlight the repeating, overarching themes or patterns that thread their way through three major *topics* (subject areas in biology). Those topics are:

- Molecules and Cells
- Heredity and Evolution
- Organisms and Populations

For example, the theme of energy transfer will help us connect topics as diverse as cellular respiration and ecosystem dynamics. In addition, the context for all *concepts* (the most important ideas that form our current understanding of a particular topic) and lab work is the History and Philosophy of Science, otherwise known as the Nature of Science (NOS).

C6—The integration of the general topics of biology through the eight major themes as specified in the Course Description: **Science as Process; Evolution; Energy Transfer; Continuity and Change; Relationship of Structure to Function; Regulation; Interdependence in Nature; Science, Technology, and Society.**

The eight major themes, as put forth by the College Board, are: **[C6]**

1. Science as a Process (NOS)	5. Relationship of Structure to Function
2. Evolution	6. Regulation
3. Energy Transfer	7. Interdependence in Nature
4. Continuity and Change	8. Science, Technology, and Society (NOS)

Of these, evolution is the underlying foundation for all modern biological thought, and this is emphasized in every unit. While the NOS provides a conceptual framework for how science is done, evolution is the common thread that links everything together. As Theodosius Dobzhansky said once, "Nothing in biology makes sense except in the light of evolution." **[C5]**

C5—Recognition of evolution as the foundation of modern biological models and thought.