

## Course Description

### **SCIENCE: AP Biology**

**COURSE DESCRIPTION:** This course is a comprehensive analysis of general biology that includes biochemistry, molecular biology, genetics, mechanisms of evolution, evolutionary history of biological diversity, plant and animal form and function, and ecology. The AP Biology course is designed to be the equivalent of a college introductory biology course usually taken by biology majors or pre-medical students their first year. The textbook used, the range and depth of topics covered, discussion topics and kinds of labs done in this course are equivalent to those taking this course in college. College Board guidelines are followed in determining the course.

**COURSE OBJECTIVES:** After completing the course, students will be able to:

1. To understand the concepts presented in an introductory college biology course.
2. To acquire investigative and laboratory skills needed in the study of biology.
3. To promote interest in the study of the biological sciences and appreciation for the place of science in modern society.
4. To equip and prepare students for the Advanced Placement Biology Examination.

**PREREQUISITES:** General Biology and Chemistry

**COURSE LENGTH:** One Year

**REQUIRED TEXT:** Campbell, Neil A. and, J. Reese, Biology, 7th AP Edition, ISBN# 0-8053-7146-X

#### **COURSE OUTLINE:**

Unit I: Introduction & The Chemistry of Life

- Exploring Life
- Molecular Biology

Unit II: The Cell

- Diffusion & Osmosis Lab
- Enzyme Catalysis
- Mitosis & Meiosis
- Cell Respiration
- Plant Pigments & Photosynthesis

Unit III: Genetics

- Genetics of Organisms

Unit IV: Mechanisms of Evolution

- Population Genetics & Evolution

Unit V: Evolutionary History of Biological Diversity

Unit VI: Plant Form and Function

- Transpiration

Unit VII: Animal Form and Function

- Physiology of the Circulatory System

Unit VIII: Ecology

- Animal Behavior
- Dissolved Oxygen & Aquatic Primary Productivity