



AP Biology:

AP biology is a year long elective course. This course is intended for the student who will pursue a career science or for a student who is highly motivated to learn. The goal of this course is the successful completion of the AP exam. While in AP Biology, students will experience many different learning environments such as working independently, collaborating with others during hands on lab activities, and participating in class discussions. Students will develop critical thinking and problem solving skills throughout the course. Student expectations include working independently on reading assignments, homework, and essays. The students are responsible for independent and teacher lead AP test review. Summer work is given.

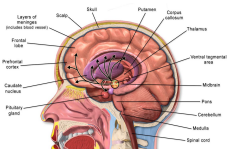
By the end of AP Biology students will know:



Molecules, cells, and energy: cell types, cell organelles, organic molecules, protein structure and functions, the first and second laws of thermodynamics, enzymes, cell membrane structure and function, chemical cycles, viruses, bacteria, immunology, cell respiration, and photosynthesis



Heredity, genetics, and evolution: Mendelian and non-Mendelian genetics, mitosis, meiosis, the endosymbiont hypothesis, theories on the origins of life, DNA and RNA, DNA replication, protein synthesis, post-translational modification, mutation, gel electrophoresis, bacterial transformation, evolution, natural selection (and its sub-categories), fitness, Hardy-Weinberg principles, and speciation



Organisms and Populations: anatomy and physiology of humans (concentrating on the muscular, nervous, and circulatory systems), plants, plant diversity, plant evolution and reproduction, and ecology