

Troy High School
Course Profile: AP/IB Biology

Course Prerequisites: Refer To Registration Presentation

Course Description:

This class will examine the many concepts of living things beginning at the cellular level starting with cell structures & energy processing then going on to Genetics, and continuing on to Genetic Engineering and learning how to manipulate and analyze DNA. In the second semester we will explore the concepts of Evolution, Speciation, and Ecology. We will end the year exploring the Anatomy & Physiology of plants and animals and examine animal behavior. Finally, we will finish up by reviewing for both the AP and IB exams that will be taken in May.

It is my hope that throughout the year each student will develop a more in depth view of key biological principles and build more knowledge so that they will be empowered and be able to make informed decisions about biology in the future.

This class is **highly accelerated** and requires students to ***read on a daily basis*** in order to perform well on quizzes and tests as well as the AP and IB tests given in May. More importantly, I hope to prepare students for the next level and equip them with the tools they need to be successful at any university they attend.

The major topics covered in this course:

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| -Chemical Nature of Life (Ch. 1-5) | -History of Life & Evolution (Ch. 22-26) |
| -Cellular Physiology (Ch. 6-9) | -Ecology (Ch. 50, 52-55) |
| -Cell Division & Genetics (Ch. 12-15) | -Structure/Function Plants (Ch. 35-39) |
| -Biogenetic Engineering/Gene Expression
(Ch.16-20) | -Structure/Function Animals (Ch. 41-49) |

Students entering this course should already have a mastery of the following concepts and possess the following skills:

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| ● Use of a Microscope/Slide preparation | ● Prior knowledge of Basic Biological concepts |
| ● ID/Know basic Lab Equipment/glassware, etc | ● Basic functions of Google docs and sheets |
| ● Making a Solution (Chemistry) | ● Using data and evidence to support scientific claims |

Workload Expectations for this course (list typical amount of homework, projects, presentations, papers, etc.):

Each Unit in AP/IB Biology covers multiple chapters that outline a “theme” or one of “Big Ideas” structured by the College Board. Students are expected to read DAILY and work through the concepts in their Textbook (Campbell). ON average students will need to carve out 30-45 min each night to keep up with the reading.