# Anatomy & Physiology

***11th & 12th Grade (10 Credits)***

- ***Meets high school graduation requirement for (Life Science) & elective credit***
- ***Meets the UC/CSU subject area D requirement***
- ***Prerequisite: successful completion of a biology and chemistry course***

## General Information

### Description

Anatomy & Physiology is designed to expand the student's knowledge of the structure and function of the human body. The course will explore anatomical structures in various body systems as they relate to the physiology of that system. Emphasis will be placed on the interactions of organs as they work together to maintain balance or homeostasis.

During class students will participate in lecture/discussions, conduct laboratory investigations including dissection, microscopy, human performance, and gather information on a variety of medical and health related topics.

Topics will include but are not limited to: biochemistry, body organization and tissues, and systems such as skeletal & muscular, cardiovascular, digestive, urinary, endocrine, nervous and reproductive.

Instruction and material are presented at an 11th/12th grade college preparatory level.

### Expectations and Goals

A student entering Anatomy & Physiology should:

- Have completed a college preparatory biology and chemistry course.
- Possess the following skills:
  - Select and use appropriate tools and technology (including calculators, computers, balances) to perform tests, collect data, and display data.
  - Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected and conclusions drawn from scientific evidence.Use a variety of print and electronic resources (including the internet) to collect information and evidence as a part of a research project.
  - Communicate the steps and results from an investigation in written report and oral presentations.
  - Plan and a construct a scientific investigation to test a hypothesis.
  - Construct appropriate graphs from data and develop quantitative statements about the relationships variables.
  - Apply simple mathematical relationships to determine a missing quantity in a mathematical expression, given the two remaining terms (including speed=distance/time, density=mass/volume, volume = area x height)
  - Formulate explanations by using logic and evidence.
  - Distinguish between hypothesis and theory as scientific terms.
  - Identify possible reasons for inconsistent results, such as sources of error or uncontrolled conditions.
  - Analyze situations and solve problems that require combining and applying concepts from more than one area of science or their education.
  - Solve scientific problems by using quadratic equations and simple trigonometric, exponential, and logarithmic functions.

Upon completion of this course, students will be well prepared for further advanced studies in college science courses. They will also demonstrate a better understanding of anatomy and physiology as it relates to them personally.

### Estimated Homework

Students are expected to complete on average one hour of homework per class period. This is an average and depends upon a multitude of factors including study habits, environment, lab/project work, reading and comprehension skills, etc.

### This Class Is Best For…

The upperclassman that has completed a college preparatory biology and chemistry course that is interested in knowing more about the body systems (human/animal). Someone planning to go into a health related field such as medicine, nursing, veterinary medicine, personal training/exercise, nutrition, etc. would benefit from the course.

## Course Materials

### Required Materials

- Text: TBD - current district counterparts are utilizing versions of Hole's Human Anatomy & Physiology
- Sample Hole's Human Anatomy & Physiology Textbook Website
- Class website (In progress)