

# HUMAN BIOLOGY

## Course Description

Human Biology provides students with an understanding of human anatomy and the inter-connected systems of the body. Students design and conduct experiments, investigate diseases and homeostatic imbalances, and analyze the impact of scientific discoveries on treatment and therapy of current ailments.

The topics and concepts covered include cells, tissues and the following systems: muscular, skeletal, cardiovascular, respiratory, digestive and excretory.

Students have frequent opportunities to work with small groups and do dissections and experiments using basic medical equipment. Students can read and interpret complex information and evaluate its validity. These topics and activities provide the students with a foundation for understanding their own body and problematic conditions that may occur throughout their life. Students understand the causes and effects of diseases and disorders.

Upon completion of the course, the student will have a foundation for further study in health and medical fields as well as for making decisions for their own health. Human Biology is a course designed for students who have received a “C” or better in General or Honors Biology.

## Standards

### Essential Standards

A student can:

1. Describe the variety of specialized systems of the human organism that perform specialized functions (e.g., digestive, respiratory, skeletal, excretory, muscular);
2. Describe that the complexity and organization of the human body accommodates the need for obtaining, transforming, transporting, releasing, and eliminating the matter and energy used to sustain life;
3. Identify the structure and functions of human systems: skeletal, cardiovascular, and digestive; and
4. Explain how the interrelationships and interdependencies among the body's systems maintain homeostasis.

### Important Standards

A student can:

1. Identify the structure and functions of human systems: nervous, excretory, muscular, integumentary;

2. Give examples of how scientific knowledge changes and accumulates over time (e.g., all scientific knowledge is subject to change as new evidence becomes available; some scientific ideas are incomplete and opportunity exists in these areas for new advances; theories are continually tested, revised, and occasionally discarded); and
3. Use technology and mathematics to perform accurate scientific investigations and communications.

### **Enhancing Standards**

A student can:

1. Identify the structure and functions of human systems: reproductive, endocrine, immune; and
2. Give examples of why scientists conduct investigations for a variety of reasons (e.g., to discover new aspects of the natural world, to explain recently observed phenomena, to test the conclusions of prior investigations, to test the predictions of current theories).