



Course Overview

High School | 11-12 | Human Anatomy & Physiology - Last Updated on April 4, 2025

DESCRIPTION

K-12 Content Area | Mission & Philosophy Statement

- Young people are born investigators, with natural curiosities about the physical, biological, and social worlds they experience. Anchoring science learning in real-world phenomena connects curiosities to core conceptual understandings.
- Students actively construct understanding through inquiry, experimentation, and analysis to develop science and engineering practices such as asking questions, planning and carrying out investigations, and constructing explanations.
- Integration of crosscutting concepts such as patterns, cause and effect, and systems thinking promote interdisciplinary understanding and sense-making of the natural world.
- Science learning occurs alongside other disciplines to foster holistic understanding and application of knowledge.

Course Description

Human Anatomy is a laboratory course which synthesizes anatomical structure, physiological function, and medical dysfunction of various systems of the body. Material is presented thematically to emphasize the interconnected nature of various body systems. This course emphasizes problem solving, decision making, critical thinking, and application of knowledge. Students will apply the concepts and principles of biology, chemistry and physics to the functioning of the human organism. Particular themes which run through all units include homeostasis, increased surface area, endocrine regulation of physiological processes and metabolism. Human Anatomy is designed to be academically challenging for students pursuing post secondary education and/or training in a health related field. Laboratories include biochemistry, cellular processes, dissection and physiology of various systems. Students will complete several projects, including a formal research paper.

STANDARDS

Pennsylvania - Grade 12 - Science and Technology and Engineering

3.1

3.1.12.A2

3.1.12.A5

3.1.12.A4

Next Generation Science (NGSS) - High School - Life Sciences

HS-LS1-1.

HS-LS1-2.



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COURSE OBJECTIVES

Specific objectives for this course are aligned to the Next Generation Science Standards, the Pennsylvania Academic Standards for Science and Technology and Engineering Education.

ASSESSMENT TYPES

The following assessment types will be used during the course:

- Curriculum Based Measures
- Formative Assessments
- Summative Assessments
- Performance Based Assessments

SUGGESTED METHODS OF INSTRUCTION

A science program demands the use of a variety of instructional strategies to foster scientific thinking. Below is a list of suggested strategies for high-quality instruction:

- Instructional components outlined in *Framework for Teaching* by Charlotte Danielson
- Hands-on learning
- Posing questions for investigation
- Cooperative learning and collaboration
- Inquiry, engineering, and design

RESOURCES

| District Approved Program Resources | District Approved Supplemental Resources | District Approved Technology Resources |
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| <p>Tortora and Grabowski. (1993). <i>Principles of Anatomy and Physiology</i>. Harper Collins.</p> <ul style="list-style-type: none"> • Student Print Edition <p>Tortora and Grabowski. (1993). <i>Principles of Anatomy and Physiology</i>. Harper Collins.</p> <ul style="list-style-type: none"> • Teacher Print Edition | <ul style="list-style-type: none"> • Teacher Created Resources • District approved supplemental resources and labs | |