

## Standards and Competencies for Health Science Anatomy and Physiology (Course # 5512)

	Begin-End Yr
Standard 1 - The student will explore the organizational structures of the body from the molecular to the organism level	2009 -
1.1 - Distinguish between anatomy and physiology.	2009 -
1.2 - Investigate the structure of the major body systems and relate the functions.	2009 -
1.3 - Investigate the major body cavities and the subdivisions of each cavity	2009 -
1.4 - Apply correct anatomical terminology of body parts and regions.	2009 -
Standard 2 - The student will explore the integumentary, skeletal, muscular systems and relate the structures of the various parts to the functions they serve.	2009 -
2.1 - Relate the functions of the integumentary system and explain the physiological mechanisms that make the functions of this system possible.	2009 -
2.2 - Illustrate the skeletal system (the bones and their parts) and relate the physiological mechanisms that help the skeletal system fulfill its function.	2009 -
2.3 - Illustrate the various kinds of muscles, including major muscles of the body and explain the physiology of muscle contraction.	2009 -
2.4 - Analyze cellular metabolism and respiration.	2009 -
Standard 3 - The student will investigate, compare and contrast methods of body control by the nervous and endocrine systems	2009 -
3.1 - Compare and contrast the anatomy and physiology of the central and peripheral nervous systems	2009 -
3.2 - Describe the structure, function and developmental aspects of neurons and their supporting glial cells	2009 -
3.3 - Investigate the physiology of electrochemical impulses and neural integration	2009 -
3.4 - Investigate organs utilized by the body for perception of external stimuli and to the maintenance of homeostasis.	2009 -
3.5 - Investigate the major organs of the endocrine system and demonstrate the relation of each structure to hormonal regulation of homeostasis.	2009 -
3.6 - Analyze the parts of the spinal cord, neurons, neuroglia and the neuromuscular junction, using microscopic slides, diagrams or models.	2009 -
3.7 - Analyze sensory perceptions.	2009 -
3.8 - Analyze diseases as related to each system.	2009 -
Standard 4 - The student will investigate the structure and function of the cardiovascular system with an emphasis on the blood, heart, and the lymphatic system and attention to the	2009 -
4.1 - Describe the molecular and cellular components of the blood.	2009 -
4.2 - Describe the functions of the blood within the human body.	2009 -
4.3 - Demonstrate an understanding of the anatomy of the heart and the flow of blood through the heart	2009 -
4.4 - Elucidate the biochemical and physiological nature of the heart's functions	2009 -
4.5 - Describe the structure of blood vessels and label the major arteries and veins	2009 -
4.6 - Describe the physiological basis of circulation and blood pressure	2009 -
4.7 - Demonstrate the role of the cardiovascular system in maintaining homeostasis	2009 -
4.8 - Describe the major organs of the lymphatic system.	2009 -
4.9 - Demonstrate an understanding of the immune response.	2009 -
Standard 5 - The student will investigate the structures of the body associated with the absorption and excretion of materials, from the molecular, cellular, organ and system levels of	2009 -
5.1 - Analyze the major organs of the digestive system.	2009 -
5.2 - Observe the gross anatomy of each organ within the digestive and the urinary systems	2009 -
5.3 - Describe mechanisms of digestion and absorption within the body	2009 -
5.4 - Relate how nutrition, metabolism, and body temperature are interrelated	2009 -
5.5 - Describe the role of the urinary system in body waste management.	2009 -
5.6 - Examine the physiological basis for the elimination of water and salts through the skin and lungs	2009 -
5.7 - Demonstrate OSHA guidelines for chemical and radiation standards in a health care facility	2009 -
Standard 6 - The student will investigate the reproductive system and its association with the growth and development of organisms.	2009 -
6.1 - Identify the structures and related functions of the male and female reproductive system	2009 -
6.2 - Compare and contrast the hormonal regulations found in the reproduction system	2009 -
6.3 - Compare and contrast the processes and products of oogenesis and spermatogenesis.	2009 -
6.4 - Indicate the duration and relate the major events at each stage of gestation	2009 -
6.5 - Investigate congenital disorders; their physiological, biochemical, hormonal, and chromosomal causes	2009 -
6.6 - Investigate how the structure of DNA relates to growth and development.	2009 -