

ANATOMY & PHYSIOLOGY

Course Description:

This is a human anatomy and physiology course intended for students pursuing a college career in the health sciences. The human anatomy and physiology concepts emphasize major organ systems, focusing on anatomical organization, histology, and some biochemistry. The students will be using medical terminology to enhance understanding of anatomy topics. Students can also expect to learn new studying strategies and habits to carry with them for years to come.

ANAT 1: Levels of Organization

As evidenced based on classroom assessments, the student is able to:

- LT.1.1 Differentiate anatomy from physiology, but also explain how they are related
- LT.1.2 Describe the levels of organization and needs/requirements of humans
- LT.1.3 Know the major body systems and their general functions
- LT.1.4 Describe the anatomical position, body regions, and planes
- LT.1.5 Locate and name the major body cavities, their subdivisions, and associated membranes and organs within

ANAT 2: Biochemistry

As evidenced based on classroom assessments, the student is able to:

- LT.2.1 Understand matter, elements, and atoms in the context of the human body
- LT.2.2 Understand general categories of atomic bonds
- LT.2.3 Identify the 4 main biological molecules and their functions

ANAT 3: Tissues

As evidenced based on classroom assessments, the student is able to:

- LT.3.1 Find and recognize different human tissue samples using a microscope, and sketch and label them in a lab journal
- LT.3.2 Distinguish/recognize major tissue types when viewed with the microscope and describe their major functions and locations

ANAT 4: Integumentary System

As evidenced based on classroom assessments, the student is able to:

- LT.4.1 Distinguish/recognize major tissue types when viewed with the microscope
- LT.4.2 Understand the function of the skin and its accessory organs

- LT.4.3 Explain the role of skin in temperature regulation to maintain homeostasis
- LT.4.4 Describe what factors contribute to skin color; describe how change in skin color can indicate disease and/or trauma

ANAT 5: Skeletal System

As evidenced based on classroom assessments, the student is able to:

- LT.5.1 Label the gross anatomy of a typical long bone and its corresponding function
- LT.5.2 Distinguish between compact and spongy bone and the four types of bone
- LT.5.3 Recognize and explain the main functions of the bones
- LT.5.4 Recall and identify all the bones of the hands and feet
- LT.5.5 Recall and identify any and all bones of the appendicular skeleton
- LT.5.6 Identify any of the bones of the skull
- LT.5.7 Identify any of the bones of the axial skeleton
- LT.5.8 Identify skeletal joints types, identify bone fracture types, and describe how bones heal

ANAT 6: Nervous System

As evidenced based on classroom assessments, the student is able to:

- LT.6.1 Compare/contrast the functions and locations of the central and peripheral nervous system and their divisions
- LT.6.2 Know the structures and function of nervous tissues—both neurons and glial cells
- LT.6.3 Describe the sequence of an action potential and how neurons communicate with neurotransmitters
- LT.6.4 Describe the steps involved in reflex arcs and other sense receptor pathways and responses
- LT.6.5 Identify/label the regions of the adult human brain as well as the analogous regions of sheep brains
- LT.6.6 Describe the general functions of human brain regions and structures

ANAT 7: Muscular System

As evidenced based on classroom assessments, the student is able to:

- LT.7.1 Differentiate the 3 types of muscle tissue in terms of location, appearance, and function
- LT.7.2 Describe the structure and function of skeletal muscle from the micro-anatomy to the gross anatomy level
- LT.7.3 Explain how muscle fibers are stimulated to contract and identify some muscular disorders affecting this process
- LT.7.4 Identify the major, superficial muscles of the head and neck
- LT.7.5 Identify the major, superficial muscles of the chest and back
- LT.7.6 Identify the major, superficial muscles of the leg
- LT.7.7 Identify the major, superficial muscles of the arm
- LT.7.8 Describe muscle exercise performance, oxygen debt, and muscle fatigue

ANAT 8: Cardiovascular System

As evidenced based on classroom assessments, the student is able to:

- LT.8.1 Identify the major anatomical structures of the human heart and describe the pathway of blood through this vital organ
- LT.8.2 Describe the major functions of the human heart and cardiovascular system as a whole, including major blood vessels and their characteristics
- LT.8.3 Describe some of the major heart conditions and/or pathologies and the tests that diagnose them
- LT.8.4 Identify heart deformities and conditions using auscultation, EKG, echocardiography, and cardiac MRI in a virtual lab

ANAT 9: Circulatory System - Blood Vessels

As evidenced based on classroom assessments, the student is able to:

- LT.9.1 Identify the major arteries and veins of the head, neck, face, and arms
- LT.9.2 Identify major arteries and veins of the thoracic trunk, pelvic region, and legs
- LT.9.3 Understand and describe the structure and function of blood vessels and circulation
- LT.9.4 Describe the structure and function of blood and its components
- LT.9.5 Describe and identify ABO and Rh blood groups from samples or descriptions

ANAT 10: Respiratory System

As evidenced based on classroom assessments, the student is able to:

- LT10.1 Describe the structure and function of the respiratory system
- LT.10.2 Describe several physical factors that influence pulmonary ventilation (breathing)

ANAT 11: Digestive System

As evidenced based on classroom assessments, the student is able to:

- LT11.1 Identify and label the major organs and regions of the alimentary canal and accessory organs
- LT.11.2 Describe the functions of the major organs and regions of the alimentary canal and accessory organs
- LT.11.3 List and describe some pathologies involving the digestive system and the organs involved

ANAT 12: Endocrine System

As evidenced based on classroom assessments, the student is able to:

- LT.12.1 Identify and name the major glandular organs of the endocrine system
- LT.12.2 Describe what hormones are and match the general roles major hormones play in maintaining homeostasis and development

ANAT 13: Urinary and Reproductive Systems

As evidenced based on classroom assessments, the student is able to:

- LT13.1 Identify the organs and discuss the functions of the urinary system
- TAKE OUT: LT.13.2 Identify the parts of the nephron responsible for filtration, reabsorption, and secretion,
and describe the mechanisms underlying each of these functional processes
- TAKE OUT: LT.13.3 Describe the function of the male and female reproductive systems

ANAT 14: Reproductive System

As evidenced based on classroom assessments, the student is able to:

- LT.14.1 Identify the major structures and functions of the male reproductive system
- LT.14.2 Identify the major structures and functions of the female reproductive system
- LT.14.3 Recognize and identify characteristics of major conditions and complications of childbirth

ANAT 15: Senses

As evidenced based on classroom assessments, the student is able to:

- LT15.1 Identify and name the major organs and structures involved in hearing, the ear
- LT.15.2 Describe the steps involved in hearing and recognize causes for impaired or damaged hearing
- LT.15.3 Identify and name the major organs and structures involved in seeing, the eyes
- LT.15.4 Describe the steps involved in seeing and recognize causes for impaired or damaged vision

ANAT 16: Dissection of Fetal Pig

As evidenced based on classroom assessments, the student is able to:

- LT15.1 Dissect a fetal pig and identify 20 internal structures (muscles, organs, arteries/veins) that are analogous to humans

West Salem High School is a Target-Based Grading and Reporting School. The learning targets above appear in the Skyward gradebook. Teachers provide feedback on each learning target to parents and students via the Skyward gradebook using a score of 3 (Proficient), 2 (Approaching), 1 (Needs Support), or 0 (No Evidence).