

SLO Presentation

A&P

Date: 09-15-2022

ISLO

Civic Engagement

- Students will develop values and beliefs in their role as a member of local, national and global societies to promote truth, fairness and goodwill to others. They will use the democratic process to further their values and beliefs and recognize and accept differing perspectives based on cultural diversity. They will engage in actions which provide service to others and have a positive impact on their local community.

Communication and Expression

- Students will demonstrate the ability to effectively and appropriately communicate their thoughts and ideas both in written and oral forms. They will develop verbal and non-verbal delivery skills, in an appropriate manner, to communicate their ideas as well as evaluate the ideas of others in a wide variety of contexts.

Critical Thinking and Quantitative Reasoning

- Students will demonstrate the ability to recognize assumptions within an argument and actively and skillfully analyze underlying reasoning to develop a conclusion. They will apply qualitative and/or quantitative analysis to solve problems, predict outcomes, test hypotheses, and explore alternatives in an ethical manner.

Information Literacy

- Students will demonstrate the ability to determine when gathering additional information is necessary. They will use appropriate resources and technologies to locate, evaluate and incorporate the information when developing supporting arguments and drawing conclusions. Students will also develop the ability to understand any legal, ethical or social issues regarding the use of information.

Personal Knowledge and Responsibility

- Students will develop the necessary skills to define, maintain and complete their personal educational goals. They will learn to work independently to accomplish personal goals toward realizing their full potential academically, physically and emotionally whether for personal enrichment, further education or career advancement.

Science, Engineering, and Math
A&P
PSLO No PSLOs
CSLO A&P120 - Introduction Human Anatomy and Physiology <ul style="list-style-type: none">• I. Identify the structures and describe the functions of the human respiratory system• Q. In lab, identify the major organs and structures of the human nervous system, cardiovascular system, respiratory system, digestive system, urinary system, and reproductive system• A. Describe basic cellular processes and the molecular and cellular basis of human life, including molecular biology and protein synthesis• M. In lab, explain DNA structure, transcription, and protein synthesis• E. Explain the structures and functions of the human endocrine system• D. Explain the structures and functions of the human senses and its cells• L. In lab, describe the physical aspects of cell membrane transport• H. Identify the structures and describe the functions of the human digestive system• P. In lab, identify the major muscles of the human body• K. Identify the structures and describe the functions of the male and female reproductive systems• C. Explain the structures and functions of the human nervous system and the activity of neurons• O. In lab, identify the major bones of the human skull and appendicular skeleton• G. Describe the structures and functions of the human lymphatic and immune systems• B. Describe the structures and functions of muscles, muscle cells, and muscle contraction• J. Identify the structures and describe the functions of the human urinary system

- F. Describe the structures and functions of blood and the human cardiovascular system
- N. In lab, explain the structures and functions of enzymes

A&P150 - Intro To Human Anatomy

- A. Describe and understand anatomical terminology, body planes and cavities, organ systems and their functions. Learn functions of cell membrane, cellular transport and organelles. Describe and learn the four primary tissues structures, functions and locations. Understand the anatomy of the integumentary system and its functions.
- B. Learn microscopic anatomy of bone, cellular components of bone, growth of bone and hormonal regulation of bone. Learn microscopic anatomy of skeletal muscle, sliding-filament theory, excitation-contraction coupling and functions of smooth and cardiac muscles. Learn six classifications of joints, all synovial joints, their names and anatomy, ranges of motion regarding synovial joints.
- C. Learn anatomy of a neuron and how they function and communicate within the body. Learn all brain regions and their functions. Learn all cranial nerves and their functions. Learn regions of spinal cord and their functions. Learn the divisions of the ANS and its functions.
- D. Learn the structures and functions of the cardiovascular system, including cardiac cycle and cardiac output, exchange of gases between blood and tissues. Learn the structures and functions of the respiratory system including exchange of gases between air and blood and neural regulation of breathing. Learn the structures and functions of the Lymphatic/Immune system including lymphatic anatomy and specific and non-specific immunity.
- E. Learn the structures of the digestive system, how substances travel through the digestive system absorption of nutrients and neural regulation. Learn the structures of the urinary system, formation of GFR and its regulation, anatomy of a nephron and its functions, formation of urine. Learn the anatomy of the reproductive systems including spermiogenesis, ovarian and menstrual cycles.
- F. In lab, identify the following: anatomical terminology, epithelial and connective tissues, integumentary structures, anatomy and bony landmarks of the appendicular skeleton, anatomy and bony landmarks and foramen of the axial skeleton, identify skeletal muscles and their specific actions, identify structures of a neuron and structures of the brain.
- G. In lab, identify the following: structures of the spinal cord, structures of the eye and ear, structures of the heart and blood flow through the heart, specific arteries and veins, specific formed elements of the blood, structures of the respiratory system, structures of the digestive system, structures of the urinary system including blood flow through the kidney and filtrate through the nephron, structures of the reproductive systems.

A&P151 - Intro To Human Physiology

- Explain cellular functions such as membrane transport, protein synthesis, and cellular respiration.
- Explain the physiological mechanisms responsible for organ functioning and the integrated functions of the organ systems.
- Describe the negative feedback mechanisms used to maintain homeostasis.
- Interpret experimental data to demonstrate understanding of physiological processes.
- Distinguish between the major organic compounds in the body and the functions of each.

A&P200 - Human Anatomy

- A. State the functions of organelles within a cell and relate to the function of the cell
- B. Distinguish between the different stages of embryological development and explain the process of gastrulation and the development of body tissues
- C. Compare and contrast tissues in the body and describe the relationship between structure and function
- D. Distinguish between the different joints in the body based on structure and function and state the movement permitted by each joint
- E. State the functions of the cranial nerves and major spinal nerves
- F. Identify the regions of the brain and spinal cord and state the function of each
- G. Compare and contrast the structure and function of the parasympathetic and sympathetic nervous systems
- H. Construct flowcharts to illustrate sensory and motor pathways
- I. Identify the structure of the heart and blood vessels and describe the relationship between structure and function
- J. Construct flowcharts to illustrate the circulation of blood, lymph and CSF
- K. Distinguish between the formed elements based on structure and function, and explain the process of hemopoiesis
- L. Identify and state the function of organs in the lymphatic system and describe the relationship between structure and function
- M. Identify and state the functions of organs in the digestive system and describe the relationship between structure and function
- N. Identify and state the function of organs in the respiratory system and describe the relationship between structure and function
- P. Identify and state the function of organs in the reproductive system and describe the relationship between structure and function

- O. Identify and state the function of organs in the urinary system and describe the relationship between structure and function
- Q. In lab, identify the location of organs in the body using correct anatomical terminology
- R. In lab, identify the microscopic structure of tissues
- S. In lab, identify all bones and joints in the body and explain the function of processes on bones
- T. In lab, utilize models and microscopy to identify human muscles and organs of the nervous system
- U. In lab, utilize models and microscopy to identify organs and structures of the cardiovascular, respiratory, digestive, urinary, and reproductive systems
- V. In lab, utilize cat dissection to identify organs
- W. In lab, utilize cat dissection to identify muscles

A&P201 - Human Physiology

- A. Distinguish between the major organic compounds in the body and their functions
- S. Describe the process of urine formation and the integrated roles of the urinary, nervous and endocrine systems in the regulation of blood volume, blood pressure, electrolyte and pH balance
- L. Compare and contrast the different neurotransmitters, receptors and actions of parasympathetic and sympathetic pathways
- E. Describe the fate, function and metabolism of carbohydrates, proteins and lipids
- P. Describe the intrinsic regulation of blood flow and the regulation of blood pressure via the baroreceptor reflex
- I. Diagram and explain ascending pathways from cutaneous receptors
- B. Explain the processes of DNA replication, transcription and translation
- T. Describe the processes of spermatogenesis and oogenesis, and hormonal regulation of the male and female reproductive systems
- M. Compare and contrast the microscopic structure, neural regulation, mechanism of excitation –contraction coupling, contraction, and relaxation in skeletal muscle and smooth muscle
- F. Explain the mechanisms of cell signaling via intracellular receptors, ion channels, enzyme linked receptors, and G-protein linked receptors
- Q. Explain the following as they relate to respiratory function: mechanism of pulmonary ventilation, pulmonary and systemic gas exchange; transport of oxygen and carbon dioxide; factors that affect unloading of oxygen; and neural regulation of ventilation rate
- J. Identify and state the function of the structures in the eye and ear, describe the formation of neural impulses of vision and sound, and the neural pathways to the brain
- C. Describe the mechanism of enzyme action and factors that influence enzyme functioning
- U. In lab, demonstrate an understanding of the scientific method, experimental design and interpretation of experimental data
- N. Describe the regulation of erythropoiesis, destruction of erythrocytes, steps in hemostasis, and blood group determination
- G. Describe the following as they relate to neuron functioning; events at a chemical synapse, mechanism of neurotransmitter action, resting membrane potentials, formation of post-synaptic potentials, and formation of action potentials
- R. Explain the chemical digestion of food by enzymes, neural and endocrine regulation of the digestive process, and the transport processes involved in absorption of nutrients
- K. Distinguish between hormones based on chemical class, source, function, and regulation of secretion
- D. Compare and contrast the different types of membrane transport and their significance in cell functioning
- V. In lab, explain the principles and use of spectrophotometry, thin layer chromatography, gel electrophoresis, and ELISA
- O. Describe the following as they relate to cardiac function; cardiac cycle, formation of action potentials in the cells of the conduction system and ECG's, formation of action potentials in contractile cells, mechanism of excitation-contraction coupling in contractile cells, and regulation of cardiac output
- H. Diagram and explain the neural pathways involved in stretch reflexes, reciprocal innervation, withdrawal reflexes and crossed extensor reflexes