

COURSE OBJECTIVES

Anatomy and Physiology

Total Objectives: 138

Course Objective #	Course Objective	Month
The student will		
921-0001 Knowledge	know the levels of organization of the body. (Medical Terminology)	
921-0002 Comprehension	define the terms anatomy and physiology and sequence from least to most complex the levels of structural organization found in the body. (Medical Terminology)	
921-0003 Knowledge	know body types. (Medical Terminology)	
921-0004 Application	list the ten major organ systems and their organs. (Medical Terminology)	
921-0005 Knowledge	know anatomical position. (Medical Terminology)	
921-0006 Knowledge	know body regions. (Medical Terminology)	
921-0007 Comprehension	define the concept of homeostasis. (Medical Terminology)	
921-0008 Knowledge	know abdominal regions. (Medical Terminology)	
921-0009 Comprehension	discuss and contrast the axial and appendicular subdivisions of the body and give examples of bilateral symmetry. (Medical Terminology)	
921-0010 Knowledge	know abdominopelvic quadrants. (Medical Terminology)	
921-0011 Knowledge	know bilateral symmetry. (Medical Terminology)	
921-0012 Application	list and define the principle sections (planes) and cavities used to describe the body and the relationships of its parts. (Medical Terminology)	
921-0013 Knowledge	know medical terminology. (Medical Terminology)	
921-0014 Comprehension	give an example of how the concept of body type can be applied to human health and well-being. (Medical Terminology)	
921-0015 Knowledge	know the principle types of tissue. (Tissues)	

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The student will		
921-0016 Knowledge	know the embryonic development of tissue. (Tissues)	
921-0017 Comprehension	define the term tissue and list the four major categories of tissues, giving a basic function of each. (Tissues)	
921-0018 Knowledge	know the types, locations, and functions of epithelial tissue. (Tissues)	
921-0019 Knowledge	know the classifications of epithelium. (Tissues)	
921-0020 Comprehension	compare and contrast endocrine and exocrine glands and classify exocrine glands based on their structure and mechanism of secretion. (Tissues)	
921-0021 Knowledge	know the functions, types, and locations of connective tissue. (Tissues)	
921-0022 Application	list the major types of connective and muscle tissue and contrast important structural and functional differences of the specific types in each category. (Tissues)	
921-0023 Knowledge	know the types and microscopic characteristics of muscle tissue. (Tissues)	
921-0024 Comprehension	classify membranous epithelium and explain how these tissues are named, using cell shape and cell layers as criteria, and contrast the function of neurons and neuralgia. (Tissues)	
921-0025 Knowledge	know the functions, specialized characteristics, organs, and cell types of nervous tissue. (Tissues)	
921-0026 Comprehension	discuss the four cardinal signs of inflammation. (Tissues)	
921-0027 Knowledge	know the functions of bone. (Skeletal Histology)	
921-0028 Application	list and discuss the general functions of the skeletal system and identify the six major structures of a typical long bone. (Skeletal Histology)	
921-0029 Knowledge	know the structure of a long bone and the types of bones. (Skeletal Histology)	
921-0030 Knowledge	know bone markings. (Skeletal Histology)	

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921-0031 Comprehension	classify the four types of bones and give examples of each. (Skeletal Histology)	
921-0032 Application	list, explain and give examples of common bone markings. (Skeletal Histology)	
921-0033 Knowledge	know bone development. (Skeletal Histology)	
921-0034 Knowledge	know divisions of the skeleton. (Skeletal Histology)	
921-0035 Comprehension	discuss the two major types of bone development and compare and contrast the Haversian system of compact bone with the basic structure of the three types of cartilage. (Skeletal Histology)	
921-0036 Knowledge	know the meaning and function of articulations. (Articulations)	
921-0037 Comprehension	define the terms articulation and anthrology and compare the classification of joints according to structure and range movement. (Articulations)	
921-0038 Comprehension	discuss the six structures that characterize diarthroses. (Articulations)	
921-0039 Knowledge	identify the types of movements at diarthrotic joints. (Articulations)	
921-0040 Knowledge	know the definition, location, examples, and functions of bursae. (Articulations)	
921-0041 Knowledge	identify the components of a diarthrotic joint. (Muscle Histology)	
921-0042 Knowledge	know the general functions of muscles. (Muscle Histology)	
921-0043 Application	list and discuss the three generalized functions of skeletal muscle tissue and describe the histology of muscle. (Muscle Histology)	
921-0044 Knowledge	know the histology of skeletal muscle. (Muscle Histology)	
921-0045 Knowledge	identify and explain the interaction of energy sources required for muscle contraction. (Muscle Histology)	

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921-0046 Knowledge	know the structure, function, and names of the skeletal muscles. (Muscle Histology)	
921-0047 Knowledge	describe how a nerve impulse travels between a motoneuron and the muscle cells. (Muscle Histology)	
921-0048 Knowledge	identify major muscles, their attachment and function. (Muscle Histology)	
921-0049 Knowledge	know the main types of cells in the nervous system. (Nervous System)	
921-0050 Knowledge	know the physiology of neurons. (Nervous System)	
921-0051 Application	list the primary organs of the nervous system and describe this system's generalized function. (Nervous System)	
921-0052 Knowledge	identify and describe the general structural and functional characteristics of the two main types of cells that compose nervous system structures and list the specific cell types in each category. (Nervous System)	
921-0053 Comprehension	discuss the structural and functional components of a three neuron reflex arc and list and describe the structural components of a synapse. (Nervous System)	
921-0054 Knowledge	know the divisions of the nervous system. (Central Nervous System)	
921-0055 Application	list the primary divisions of the nervous system. (Central Nervous System)	
921-0056 Knowledge	know the brain and spinal cord coverings. (Central Nervous System)	
921-0057 Comprehension	discuss the generalized structure and function of the spinal cord and the six major divisions of the brain. (Central Nervous System)	
921-0058 Knowledge	know the structure and function of the spinal cord and spinal nerves. (Central Nervous System)	
921-0059 Knowledge	know the structure and functions of the various parts of the brain. (Central Nervous System)	
921-0060 Knowledge	identify the cranial nerves by name and number and give the generalized functions of each. (Central Nervous System)	

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The student will		
921-0061 Knowledge	know the classes, general information, and action of neurotransmitters. (Central Nervous System)	
921-0062 Comprehension	discuss the synthesis, storage, release, activation, and inactivation of neurotransmitters. (Central Nervous System)	
921-0063 Knowledge	know the characteristics of somatic sensory and somatic motor pathways. (Central Nervous System)	
921-0064 Comprehension	compare and contrast somatic sensory and somatic motor pathways and discuss several of the somatic reflexes of clinical importance. (Central Nervous System)	
921-0065 Knowledge	know the meaning of the endocrine system. (Endocrine System)	
921-0066 Knowledge	know the general functions of the neuroendocrine system. (Endocrine System)	
921-0067 Knowledge	know the glands of the endocrine system and their functions. (Endocrine System)	
921-0068 Application	list, give the location and identify the hormones produced by the primary endocrine. (Endocrine System)	
921-0069 Analysis	distinguish between the endocrine and exocrine glands and compare and contrast the general functions of the endocrine and nervous system. (Endocrine System)	
921-0070 Comprehension	define the term hormone and briefly describe the proposed mechanism of hormone action at the cellular level, including the regulation of hormone secretion by negative feedback control mechanisms. (Endocrine System)	
921-0071 Comprehension	discuss the chemical nature, classification and mechanism of action of prostaglandins. (Endocrine System)	
921-0072 Knowledge	know the primary and secondary functions of blood. (Circulation)	
921-0073 Knowledge	describe the generalized function of blood. (Circulation)	
921-0074 Knowledge	know to to measure blood. (Circulation)	
921-0075 Knowledge	know the effect of body fat on blood volume. (Circulation)	

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921-0076 Knowledge	know the average volume of blood. (Circulation)	
921-0077 Knowledge	know the types of blood cells. (Circulation)	
921-0078 Knowledge	know blood types. (Circulation)	
921-0079 Knowledge	know blood plasma. (Circulation)	
921-0080 Knowledge	know blood coagulation. (Circulation)	
921-0081 Application	list the types of blood cells normally found in circulating blood cells and identify the most important functions of each. (Circulation)	
921-0082 Comprehension	discuss the generalized function, classification, normal appearance size, shape, and number of both erythrocytes in circulating blood. (Circulation)	
921-0083 Knowledge	describe the process of red blood cell production and destruction and classify anemia in terms of red blood cell numbers and hemoglobin content. (Circulation)	
921-0084 Application	list and give the generalized functions of the major plasma components and discuss the important physical properties of platelets and their relationship to homeostasis. (Circulation)	
921-0085 Knowledge	describe the ABO and RH blood groupings classification and explain the steps involved in blood coagulation, including the factors that oppose and hasten clotting. (Circulation)	
921-0086 Knowledge	know the location of the heart. (Cardiovascular System)	
921-0087 Knowledge	know the covering of the heart. (Cardiovascular System)	
921-0088 Knowledge	know the structure of the heart and blood vessels. (Cardiovascular System)	
921-0089 Knowledge	know the circulation of blood. (Cardiovascular System)	
921-0090 Application	list the primary organs of the cardiovascular system and relate each organ or group of organs to the movement and/or the direction of blood flow in the system. (Cardiovascular System)	

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The student will		
921-0091 Comprehension	discuss the location, size and position of the heart in the thoracic cavity and list the components of the pericardium, heart wall, and conduction system. (Cardiovascular System)	
921-0092 Application	list, locate, and compare the primary coats or layers of the major arteries and veins, and correlate structure of arteries, arterioles, veins, venules, and capillaries with their functions. (Cardiovascular System)	
921-0093 Comprehension	discuss the functional significance of the portal and fetal circulations and identify the major structures in each system. (Cardiovascular System)	
921-0094 Knowledge	identify by name the major arteries and veins of the body and trace a drop of blood from a superficial vein in the lower extremity to and through the heart and lungs to a major artery in the brain or other location.	
921-0095 Knowledge	know the definition of the lymphatic system, lymph, and interstitial fluid. (Lymphatic System)	
921-0096 Knowledge	know the formation and distribution of lymphatics. (Lymphatic System)	
921-0097 Knowledge	know the structure and function of the lymphatics. (Lymphatic System)	
921-0098 Knowledge	know the circulation of lymph. (Lymphatic System)	
921-0099 Knowledge	know the structure, function, and location of the lymph nodes. (Lymphatic System)	
921-0100 Knowledge	know the lymphatic drainage of the breast. (Lymphatic System)	
921-0101 Knowledge	know the location, size, and function of the thymus. (Lymphatic System)	
921-0102 Knowledge	know the location, structure, and function of the spleen. (Lymphatic System)	
921-0103 Knowledge	describe the generalized functions of the lymphatic system and list the primary lymphatic structures. (Lymphatic System)	
921-0104 Comprehension	discuss the structure of lymphatic vessels and the formation, distribution and general body plan of lymphatic drainage through the right lymphatic duct and the thoracic duct. (Lymphatic System)	
921-0105 Comprehension	discuss the specialized function of the lymphatic system in absorption of fats and other nutrients from the small intestine. (Lymphatic System)	

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921-0106 Comprehension	discuss the lymphatic pump that causes central movement, or flow, of lymph and describe and correlate the structure of lymph nodes with their function as biological filters. (Lymphatic System)	
921-0107 Comprehension	discuss the structure and function of the spleen and thymus, give the location of the major groups or clusters of lymph nodes in the body, and identify their two primary functions. (Lymphatic System)	
921-0108 Knowledge	know the structure and function of the organs of the respiratory system: nose, nasopharynx, oropharynx, laryngopharynx, larynx, pharynx, trachea, bronchi, lungs, and thorax. (Respiratory System)	
921-0109 Application	list locate and give the generalized functions of the organs of the respiratory system. (Respiratory System)	
921-0110 Knowledge	describe and correlate the anatomy of the nose and paranasal sinuses with their specialized functions. (Respiratory System)	
921-0111 Knowledge	identify and locate the tonsils and list the anatomical divisions of the pharynx, naming the openings into and between its divisions. (Respiratory System)	
921-0112 Knowledge	describe the structure and function of the larynx, trachea, bronchi, bronchioles, and lungs. (Respiratory System)	
921-0113 Knowledge	identify the lobes of the lungs and the bronchopulmonary segments and discuss the structure and function of the thorax and mediastium in respiration. (Respiratory System)	
921-0114 Knowledge	know the structure, function, and importance of the organs in the digestive system: mouth, salivary glands, teeth, pharynx, esophagus, stomach, small intestine, large intestine, peritoneum, liver, gall bladder, pancreas, and appendix. (Digestive System)	
921-0115 Application	list, locate, and give the generalized functions of the organs in the digestive system. (Digestive System)	
921-0116 Application	list, in sequence, each of the component parts or segments of the alimentary canal and identify the accessory organs of digestion that are located within or open into the gastrointestinal tract. (Digestive)	
921-0117 Application	list and describe the four layers of the wall of the alimentary canal and discuss the major modifications that occur in these layers throughout the length of the tract. (Digestive System)	
921-0118 Knowledge	identify and compare the structure and secretions of the salivary glands and discuss the structural components of a typical tooth. (Digestive System)	
921-0119 Comprehension	discuss the size, shape, position, divisions, coats, and glands of the stomach, and compare the structure and the functional activity of chief cells, parietal cells, and mucus-producing cells found in this organ.	
921-0120 Comprehension	discuss the size, position, divisions, and coats of the small and large intestines and the structure, function, and significance of the pancreas, liver, gallbladder, and appendix. (Digestive System)	

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921-0121 Knowledge	know the structure, function, and importance of the organs in the urinary system: kidneys, ureters, bladder, and urethra. (Urinary System)	
921-0122 Application	list, locate, and give the generalized functions of the organs in the urinary system. (Urinary System)	
921-0123 Knowledge	name the parts of the nephron and describe the role of each component in the formation of urine. (Urinary System)	
921-0124 Comprehension	discuss how the kidneys form urine and trace urine from its point of formation to the exterior of the body. (Urinary System)	
921-0125 Comprehension	explain the importance of filtration, tubular reabsorption, and tubular secretion in urine formation and describe the physical characteristics of normal urine. (Urinary System)	
921-0126 Comprehension	discuss and compare the structure and functions. (Urinary System)	
921-0127 Knowledge	know the structure, function, and importance of the organs in the male reproductive system: testes, genital ducts (epididymis, vas deferens, ejaculatory duct), seminal vesicles, prostate gland, bulbourethral gland, scrotum, spermatic, and spermatic cords. (Male Reproductive System)	
921-0128 Application	list the essential and accessory organs of the male reproductive system and give the generalized function of each. (Male Reproductive System)	
921-0129 Knowledge	describe the gross and microscopic anatomy of the testes, identify cell type responsible for testosterone secretion, and discuss the primary functions of this important hormone. (Male Reproductive System)	
921-0130 Comprehension	explain the process of spermatogenesis, describe the structure of a mature spermatozoon, and discuss the composition and function of seminal fluid or semen. (Male Reproductive System)	
921-0131 Knowledge	trace the passage of an individual sperm cell from its point of formation, in sequence, through the genital ducts to the exterior of the body, and list and discuss the primary male functions in reproduction. (Male Reproductive System)	
921-0132 Comprehension	compare the structure, location, and function of the accessory reproductive glands in the male and identify the components of the male external genitals. (Male Reproductive System)	
921-0133 Knowledge	know the structure, function and importance of the organs in the female reproductive system. (Female Reproductive System)	
921-0134 Application	list the essential and accessory sex organs of the female reproductive system and give the generalized function of each. (The Female Reproductive System)	
921-0135 Comprehension	discuss the location, structure divisions and functions of the uterine tubes, uterus and vagina and identify the structures that together constitute the female external genitals. (Female Reproductive System)	

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921-0136 Knowledge	describe the structure of the female gonads and explain the steps in development of mature ova from ovarian follicles. (Female Reproductive System)	
921-0137 Knowledge	identify the phases of the endometrial or menstrual cycle and explain the hormonal control of cyclical changes that occur in the ovaries. (Female Reproductive System)	
921-0138 Knowledge	describe the developmental processes of fertilization, implantation, histogenesis, and organogenesis. (Female Reproductive System)	