

# Human Body Structures and Functions

Human Body Structures and Functions is a one-credit course designed to help students develop a basic knowledge of the normal structure and function of the human body. The course uses an integrated approach for teaching medical terminology to the health care student by incorporating medical terminology into instruction regarding human body structures and functions and the disease process.

Career and technical student organizations are integral, cocurricular components of each career and technical education course. These organizations serve as a means to enhance classroom instruction while helping students develop leadership abilities, expand workplace-readiness skills, and broaden opportunities for personal and professional growth.

Students will:

1. Use appropriate anatomical terminology.  
Examples: proximal, superficial, medial, supine, superior, inferior, anterior, posterior
2. Identify anatomical body planes, body cavities, and abdominopelvic regions of the human body.
3. Classify major types of cells, including squamous, cuboidal, columnar, simple, and stratified.
4. Classify tissues as connective, muscular, nervous, or epithelial.
5. Identify anatomical structures and functions of the integumentary system.
  - Identifying accessory organs
  - Recognizing diseases and disorders of the integumentary system  
Examples: decubitus ulcer, melanoma, psoriasis
  - Using medical terminology related to the integumentary system
  - Assessing the integumentary system for abnormalities
6. Identify bones that compose the skeletal system.
  - Identifying functions of the skeletal system
  - Identifying subdivisions of the skeleton as axial and appendicular skeletons
  - Classifying types of joints according to movement
  - Identifying the four bone types
  - Identifying various types of skeletal system disorders  
Examples: fractures, arthritis
7. Identify major muscles, including origins, insertions, and actions.
  - Describing common types of body movements, including flexion, extension, abduction, and adduction
  - Classifying muscles based on functions in the body, including prime movers, antagonists, synergists, and fixators
  - Comparing skeletal, smooth, and cardiac muscles based on microscopic anatomy
  - Identifying diseases and disorders of the muscular system  
Examples: muscular dystrophy, multiple sclerosis, strain

8. Identify structures of the nervous system.
  - Explaining differences in the function of the peripheral nervous system and the central nervous system
  - Labeling parts of sensory organs, including the eye, ear, tongue, and skin receptors
  - Recognizing diseases and disorders of the nervous system  
Examples: Parkinson's disease, meningitis
9. Identify structures of the cardiovascular system.
  - Tracing the flow of blood through the body
  - Identifying components of blood
  - Describing blood cell formation
  - Distinguishing among human blood groups
  - Describing common cardiovascular diseases and disorders  
Examples: myocardial infarction, mitral valve prolapse, varicose veins, arteriosclerosis
10. Identify structures and functions of the digestive system.
  - Tracing the pathway of digestion from the mouth to the anus using diagrams
  - Identifying disorders affecting the digestive system  
Examples: ulcers, Crohn's disease, diverticulitis
11. Identify structures and functions of the respiratory system.
  - Tracing the pathway of the exchange of oxygen and carbon dioxide
  - Recognizing common disorders of the respiratory system  
Examples: asthma, bronchitis, cystic fibrosis
12. Identify structures and functions of the reproductive system.
  - Differentiating between male and female reproductive systems
  - Recognizing stages of pregnancy and fetal development
  - Identifying disorders of the reproductive system  
Examples: endometriosis, sexually transmitted diseases, prostate cancer
13. Identify structures and functions of the urinary system.
  - Tracing the filtration of blood from the kidney to the urethra
  - Recognizing diseases and disorders of the urinary system  
Examples: kidney stones, urinary tract infections
14. Identify endocrine glands and their functions.
  - Describing effects of hormones produced by endocrine glands
  - Identifying common disorders of the endocrine system  
Examples: diabetes, goiter, hyperthyroidism
15. Identify physiological effects and components of the immune system.
  - Contrasting active and passive immunity
  - Evaluating the importance of vaccines
  - Recognizing disorders and diseases of the immune system  
Examples: acquired immunodeficiency syndrome (AIDS), acute lymphocytic leukemia