



South Central College

BIOL 220 Human Anatomy

Course Outcome Summary

Course Information

Description	This course takes an in-depth look at the anatomy of the human body systems. The course emphasizes structure and anatomical function at the cellular, tissue, organ and systemic level. Dysfunctions are included but the body in homeostasis is emphasized. This course includes a weekly three hour lab. Some labs include dissection. (Prerequisite: Accuplacer Reading Comprehension Score of 78 or READ0090 with a grade of C or better) (MNTC Goal Area 3)
Total Credits	4
Total Hours	96

Types of Instruction

Instruction Type	Credits/Hours
Lecture	3/48
Lab	1/48

Pre/Corequisites

Accuplacer Reading Comprehension Score of 78 or above or READ0090 with a grade of C or better.

Institutional Core Competencies

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Use anatomical terms to describe the body.

Learning Objectives

Explain the principles that drive structure and function.

Identify the major levels of structural organization from chemical to organ systems and their interactions.

Demonstrate the use of terms to describe body sections, body regions, relative positions and the anatomical position.

2. Describe the foundations of the cell.

Learning Objectives

Summarize the basic concepts of the cell theory.
Identify cellular organelles and explain their functions.
Explain how cells can be interconnected to maintain structural stability in body tissues.
Summarize the cell life cycle and how cells divide.

3. Classify the four major categories of tissues.

Learning Objectives

Analyze the relationship between structure and function for each epithelial tissue type.
Describe the general characteristics and locations of different connective tissue types.
Compare and contrast the three types of muscle tissue.
Outline the basic structure and function of neural tissue.
Identify different types of tissues.

4. Describe and identify components of the skeletal system.

Learning Objectives

Describe the functions of the skeletal system.
Describe the types of cells found in bone.
Distinguish between compact and spongy bone.
Discuss the steps in the process of bone development.
Identify the histological features of hyaline cartilage, fibrocartilage, elastic cartilage and compact bone.
Identify the bones of the appendicular skeleton.
Identify the bones of the axial skeleton.
Classify bones according to their shapes and give examples of each.
Describe different types of fractures and explain how fractures heal.
Distinguish among the different types of joints.
Explain the generalized effects of aging on the skeletal system.

5. Identify and describe the major features and functions of the integument.

Learning Objectives

Describe the primary cell types of the different layers of the integument.
Compare the structure and functions of the skin with the underlying connective tissue.
Discuss the anatomy and functions of the skin's accessory structures: hair, glands and nails.
Explain how skin responds to injuries and repairs itself.
Describe disorders of the skin.

6. Describe skeletal muscle tissue and muscle organization.

Learning Objectives

Summarize the distinguishing characteristics of muscle tissue.
Outline the organization of connective tissues, blood supply and innervation of skeletal muscle.
Characterize the structure of the neuromuscular synapse and summarize events that occur at the junction.
Relate the distribution of various types of skeletal muscle fibers (fast, slow and intermediate) to muscular performance.
Identify skeletal muscles by name and location.
List the steps involved in muscle contraction.
Explain how muscles interact to produce or oppose movements.

7. Discuss the general anatomical organization and functions of the nervous system and neural tissue.

Learning Objectives

Compare and contrast the anatomical subdivisions of the nervous system.
Describe white matter and gray matter and their distribution in the central nervous system and peripheral nervous system.
Describe the structure of a typical neuron and how neurons are classified.
Describe the microanatomy of a synapse and the steps involved in a synapse.
Explain the basic anatomical organization of the nervous system.
Identify nerves by name and location in the central nervous system and peripheral nervous system.

8. Describe the central nervous system.

Learning Objectives

Identify and describe the meninges of the brain and spinal cord.
Describe the structural and functional characteristics of the spinal cord.
Describe the structures that constitute the blood-brain barrier and indicate their functions.
Identify the anatomical structures of the brain and list their functions.
Name and describe the 12 pairs of cranial nerves and the structures they stimulate.
Identify various dysfunctions of the central nervous system.

9. Describe the autonomic nervous system.

Learning Objectives

Identify the autonomic nervous system basic functions and its effectors.
Compare the autonomic and somatic motor systems.
Compare and contrast the anatomy of the sympathetic and parasympathetic systems.
Compare and contrast the effects of parasympathetic and sympathetic divisions.

10. Define and describe the general and special senses.

Learning Objectives

Identify the receptors for the general senses and briefly describe how they function.
Classify receptors according to the stimulus detected, body location and histological structure.
Identify, describe and discuss the receptors and neural pathways involved in the special senses.
Describe disorders of the sensory system.

11. Locate endocrine glands and describe the hormones they produce.

Learning Objectives

List hormones and describe their function.
Locate the major endocrine glands.
Discuss the results of abnormal hormone production.

12. List and describe the components and functions of the blood.

Learning Objectives

Describe the function of blood.
Discuss the composition of blood and the physical characteristics of plasma.
Explain what determines a person's blood type and why blood types are important.
Explain how red blood cells and their various components are broken down and recycled.
Discuss the structure of platelets and their role in blood clotting.

13. Explain the basic design and function of the cardiovascular system.

Learning Objectives

Identify the anatomy and histology of the heart and vascular components of the cardiovascular system.
Describe the structural coverings of the heart.
Trace the pathway of blood flow through the heart.
Compare and contrast the various types of blood vessels.
Name and trace the components of the conduction pathway of the heart.
Discuss the events that take place during the cardiac cycle.
Discuss dysfunctions of the cardiovascular system.
Describe the fetal cardiovascular system and the changes that occur at birth.

14. Describe the lymphatic system.

Learning Objectives

Identify the major components of the lymphatic system.
Describe the origin of lymph and its relationship with blood.
Contrast the structure of lymphatic vessels and veins.
Discuss the importance of lymphocytes and describe where they are found in the body.

15. Describe the primary structures and functions of the respiratory system.

Learning Objectives

Identify the gross anatomy and functions of structures of the respiratory tract.
Describe the pleural cavities and pleural membranes.

Identify disorders of the respiratory system.

16. Identify the structures and functions of the digestive system.

Learning Objectives

Identify the gross anatomy, histology and functions of the digestive system and its accessory organs.

Summarize the events of digestion.

Describe the peritoneum and the locations and functions of the mesenteries.

Describe disorders of the digestive system.

17. Describe the urinary system.

Learning Objectives

Describe the functions of the urinary system.

Name and locate the anatomical structures of the urinary system.

Discuss the blood vessels that supply blood to nephrons.

Compare and contrast the histological organization of the nephron and the functions of each segment.

Outline the micturition reflex and its control.

18. Compare and contrast the structures and functions of the male and female reproductive systems.

Learning Objectives

Outline the function of the reproduction system.

Compare and contrast the general organization of the male and female reproductive systems.

Describe the location, gross anatomy and functions of the principal structures of the reproductive system.

Describe and identify the stages of gametogenesis.

Describe the ovarian and uterine cycles and the major characteristics of each phase.

Identify disorders of the reproductive system.

19. Adhere to safety rules in the anatomy laboratory.

Learning Objectives

Locate safety equipment and describe its proper use.

Explain the hazards associated with working with preserved specimens in the lab.

Follow housekeeping procedures and chemical hygiene practices as outlined in the lab.

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.