BAKER COLLEGE
STUDENT LEARNING OUTCOMES

BIO1211 Human Anatomy and Physiology I Lab
1 Semester Credit Hours

Student Learning Outcomes and Enabling Objectives

1. Describe the organization of the human body.
    a. Identify anatomical planes.
    b. Identify the anatomical quadrants.
    c. Identify the abdominopelvic regions.
    d. Identify body cavities.
    e. Identify the anatomical directions.

2. Investigate the role of cells in the human body.
    a. Identify the major structures of cells.
    b. Demonstrate diffusion, osmosis and filtration.
    c. Identify the stages of mitosis.
    d. Identify parts of the microscope.
    e. Demonstrate use of a microscope to observe cells.

3. Distinguish the general characteristics of tissues.
    a. Identify the major tissue types: epithelial, connective, muscle and nervous.
    b. Identify the major forms of epithelial tissues.
    c. Identify the major types of connective tissues.

4. Examine the characteristics and role of the integumentary system.
    a. Identify the general structures of skin:
        I. Hypodermis
        II. Dermis
        III. Epidermis
    b. Identify accessory structures of the integumentary system: hair, nails, and glands.

5. Examine the characteristics and role of the skeletal system.
    a. Identify the microscopic and macroscopic structures of bones.

b. Classify the shapes of bones.
c. Describe the organization of the skeletal system and identify the major bones.
d. Identify the major bony landmarks.
e. Identify the structural and functional classifications of synovial joints.

6. Examine the characteristics and role of the muscular system.
    a. Identify the macroscopic structures of skeletal muscle.
    b. Identify major muscle groups.
    c. Identify the microscopic structures of skeletal muscle.
    d. Identify parts of the:
        I. Sliding filament model
        II. Cross bridge cycle
        III. Motor units

7. Examine the characteristics and role of the nervous system.
    a. Describe the microscopic structures and functions of the nervous system.
        I. Neurons
        II. Neuroglial cells
        III. Receptors
    b. Describe neuron cell function, including:
        I. Action potential
        II. Inhibition
        III. Excitation
        IV. Neuromodulators
    c. Identify the organization of the nervous system
        I. Central
        II. Peripheral
        III. Autonomic system
        IV. Somatic system
    d. Identify major structures and functions of the central nervous system:
        I. Meninges
        II. Brain
        III. Spinal cord
    e. Identify the major structures and functions of the peripheral nervous system:
        I. Cranial nerves
        II. Spinal nerves
        III. Major plexuses
    f. Identify general neural pathways:
        I. Parts of a reflex arc
        II. Motor and sensory roots
        III. Afferent and efferent nerves

g. Describe the structure and function of the general senses.
    I. Pressure and touch
    II. Stretch
    III. Proprioception
    IV. Pain
    V. Temperature
    VI. Visceral
h. Describe the structure and function of the special senses.
    I. Taste
    II. Vision
    III. Hearing
    IV. Smell
    V. Equilibrium

8. Examine the characteristics and role of the endocrine system
    a. Distinguish between endocrine and exocrine glands.
    b. Identify the microscopic and macroscopic structure of the major endocrine glands and their associated hormones:
        I. Hypothalamus
        II. Pituitary gland
        III. Thymus
        IV. Thyroid
        V. Parathyroid glands
        VI. Adrenal
        VII. Pancreas
        VIII. Pineal
        IX. Thymus
    c. Explain how the secretion of hormones are regulated.

Big Ideas and Essential Questions

Big Ideas

- Anatomical Directions and Organization
- Cell Structure
- Tissues
- Integumentary System
- Skeletal System
- Muscular System
- Nervous System
- Endocrine System

Essential Questions

1. How is the body organized?
2. How do cells contribute to body function?
3. What are tissues?
4. What are the structures and functions of the integumentary system?
5. What are the structures and functions of the skeletal system?
6. What are the structures and functions of the muscular system?
7. What are the structures and functions of the nervous system?
8. What are the structures and functions of the endocrine system?

These SLOs are not approved for experiential credit.

Effective: Fall 2024