

# **Anatomy and Physiology**

## **Course Syllabus- Chapter Objectives**

### **Chapter 1 – Structure and function of the body**

#### Objectives

- a. Name the order of levels of organization of the body
- b. Use anatomical terminology in describing body structures
- c. List the planes and body cavities of the body
- d. Explain the meaning of homeostasis and give an example of a homeostatic mechanism

### **Chapter 2 – Cells and Tissues**

#### Objectives

- a. Identify and discuss the basic structure and function of the three major components of a cell
- b. Identify and discuss the cell organelles and the function of each
- c. List the three structural components of a neuron

### **Chapter 5- Integumentary System**

#### Objective

- a. Compare each type of body membrane
- b. Describe the structure and function of dermis and epidermis
- c. List the accessory organ of the skin
- d. List the functions of the integumentary system
- e. List and describe the major skin disorders
- f. Classify burns

### **Chapter 6 – Skeletal System**

#### Objective

- a. Explain how bones are formed, how they grow, and how they are remodeled
- b. Discuss and observe the microscopic structure of bones
- c. Identify parts of the typical long bone
- d. List and discuss the functions of the skeletal system
- e. Identify the two regions of the skeletal system and identify the bones in each
- f. List and compare the major types of joints found in the body

### **Chapter 7 – Muscular System**

#### Objective

- a. List, locate and compare the three major types of muscles located in the body
- b. Discuss the major types of muscle contractions
- c. Identify and name on a diagram or model the major muscles of the body
- d. List and explain the major types of movements produced by skeletal muscles

### **Chapter 8 - Nervous System**

#### Objective

- a. List the organs and divisions of the nervous system and describe the function of the system as a whole
- b. Identify the major types of cells in the nervous system and discuss the function of each
- c. Identify and discuss a three neuron reflex arc
- d. Compare and contrast the propagation of a nerve impulse along a nerve fiber and across a synaptic gap
- e. Identify and discuss the coverings and the fluids of the brain and spinal cord
- f. List and describe the major disorders of the nervous system

### **Chapter 10 – Endocrine System**

Objective

- a. Distinguish between endocrine and exocrine glands
- b. Identify and locate the primary endocrine glands and list the hormones produced by each
- c. Describe the mechanisms of steroid and protein hormone action
- d. Explain how negative and positive feedback loops regulate the secretion of hormones

Chapter 12 – The Heart and Heart Disease

Objective

- a. Discuss the location, size, and position of the heart in the thoracic cavity
- b. Identify heart chambers, sounds, and valves
- c. Trace blood through the heart and compare the functions of the heart chambers on the right and left sides
- d. Discuss and perform EKG

Chapter 4- Mechanisms of Disease

Objective

- a. List and describe the basic mechanisms of disease and risk factors
- b. List five categories of pathogenic disease
- c. Distinguish between malignant and benign
- d. Describe the pathogenesis of cancer

Chapter 14 – Lymphatic System

Objective

- a. Describe the generalized functions of the lymphatic system and list the primary lymphatic structures.
- b. Discuss the major types of immune system molecules and indicate how antibodies and components work.
- c. Discuss and contrast the development and functions of B and T cells.

Chapter 15 - Respiratory System

Objective

- a. Discuss the generalized functions of the respiratory system
- b. List the major organs of the respiratory system and describe the function of each
- c. Identify and discuss the mechanisms that regulate respiration

Chapter 16 - Digestive System

Objective

- a. List in sequence each of the component parts or segments of the alimentary canal from the mouth to the anus and identify the accessory organs of digestion
- b. Describe the function of the digestive organs