

Assessment Exam Study Guide  
Anatomy and Physiology I

Knowledge of the basic definition and general function of the following items is suggested.

Chapter 1: Introduction/Overview

- A. Define Anatomy
- B. Define Physiology
- C. Levels of Structural Organization
- D. Define Homeostasis
  - a. Positive Feedback
  - b. Negative Feedback
- E. Anatomical Position
- F. Directional Terms
- G. Regional Terms
- H. Body Planes/Sections
- I. Body Cavities

Chapter 2: Chemistry

- A. Define Element
- B. Define Molecule
- C. Define Inorganic Compound
  - a. Water
  - b. Salts
  - c. Acids and Bases
- D. Define Organic Compound
  - a. Carbohydrates
  - b. Lipids
  - c. Proteins
  - d. Nucleic Acids
  - e. Adenosine Triphosphate

### Chapter 3: Cells

- A. Definition of a Cell
- B. Cell Theory (4 Concepts)
  - a.
  - b.
  - c.
  - d.
- C. Components of a Generalized Cell
  - a. Plasma Membrane
  - b. Nucleus
  - c. Cytoplasm

### Chapter 4: Tissues

- A. Definition of a Tissue
  - a. Epithelial
  - b. Connective
  - c. Muscle
  - d. Nervous

### Chapter 5: Integumentary System

- A. Components of the Integument
- B. Major Functions of the Integument

### Chapter 6: Skeletal System

- A. Major Functions of the Skeletal System
- B. Bone Textures
  - a. Compact Bone
  - b. Spongy Bone
- C. Long Bone Structure
  - a. Diaphysis
  - b. Epiphyses

## Chapter 7: The Bones

- A. Bone Identity - Be able to identify a bone based on a description of its location (i.e., the body region it is located in or the other bones that it articulates with).
- B. Bone Identity – Be able to identify whether a particular bone is part of the axial or appendicular skeleton.

## Chapter 8: Joints

- A. Definition of a Joint
- B. Types of Joints Based on their Structure
  - a. Fibrous
  - b. Cartilaginous
  - c. Synovial
    - i. General Structure
    - ii. Different Types

## Chapter 9: Muscular System

- A. Types of Muscle Tissue
  - a. Skeletal
  - b. Smooth
  - c. Cardiac
- B. Major Functions of the Muscles
- C. Contraction of a Whole Muscle
  - a. Motor Unit
  - b. Effect of Exercise on Muscles
- D. Muscle Metabolism
  - a. Sources of ATP
  - b. Causes of Fatigue

## Chapter 10: The Muscles

- A. Muscle Identity - Be able to identify a major muscle/muscle group based on a description of its location or its action.

## Chapter 11-14: Nervous System

- A. Basic organization of the Nervous System (Figure 11.2a)

## Chapter 17: Blood

### A. Basic Components

- a. Plasma
  - i. Solvent -Water
  - ii. Solutes -
- b. Formed Elements
  - i. Red Blood Cells (Erythrocytes)
  - ii. White Blood Cells (Leukocytes)
  - iii. Platelets

### B. Definition of a Capillary

- a. Pulmonary Capillary
- b. Systemic Capillary

## Chapter 18: Heart

### A. Chambers

- a. Atria
  - i. Right
  - ii. Left

### b. Ventricles

- i. Right
- ii. Left

### B. Great Vessels Associated with Heart Chambers

## Chapter 19: Blood Vessels

### C. Definition of an Artery

- i. Pulmonary Artery
- j. Systemic Artery

### D. Definition of a Capillary

- c. Pulmonary Capillary
- d. Systemic Capillary

### E. Definition of a Vein

- a. Pulmonary Vein
- b. Systemic Vein