SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: MED 102 Class/Lect. Hours: 150 min/week Lab Hours: 0 Credits: 3 Dept.: Medical Assisting

Course Title: Human Body in Health and Disease Semester: Fall/Spring Year: 2019

Course Description, Prerequisite, Corequisite:

OBJECTIVES/COMPETENCIES

Course Objectives	Course Competencies
Chapter 1 1. Define the terms: anatomy, physiology and pathology 2.List and describe in order of increasing complexity the levels of organization of the body 3. Define the term anatomical position 4.List and define directional terms and planes 5. List the nine abdominopelvic regions and the abdominopelvic quadrants 6.List the major cavities of the body 7. Explain the meaning of homeostasis and give examples of a typical homeostatic mechanism	Students will complete a study guide and quizzes that requires them to: Define terms ; anatomy, physiology and pathology List and describe the order of the levels of organization of the body and be able to identify and give details of basic structures and functions of the cell and its components Define the term anatomical position Recognize, list and define directional terms and planes Complete diagrams of the abdominopelvic quadrants and regions Explain what homeostasis is and provide examples for the two feedback processes
Chapter 3 1. Identify and discuss the basic structures and functions of the cell 2. Explain how epithelial tissue is grouped according to shape and arrangement of cells 3. Compare passive and active transport	Students will compare passive and active transport Students will explain the organization of epithelial tissue and be able to recognize the various shapes and arrangements of cells
Chapter 4 1. Define and contrast the terms organ and organ system 2. List the 11 major organ systems of the body 3. Identify and locate the major organs of each major body organ system 4. Briefly describe the major functions of each major body organ system	Chapter 4 - 23 (As outlined in Course Objectives) will: List major organs in each body system Identify the anatomical location of major organs in each body system Compare the structure and function of the human body across the lifespan Describe the normal function of each body system
Chapter 7 1. Classify and compare the structure of each type of body membrane	

2. Describe the structure and function of the epidermis and dermis
3. List and briefly describe each accessory organ of the skin
4. List and discuss the three primary functions of the integumentary system
5. List and describe major skin disorders and infections
6. Classify burns and describe how to estimate the extent of a burn injury

Chapter 8

1. List and discuss the generalized functions of the skeletal system
2. Identify the major anatomical structures found in the long bone
3. Discuss the microscopic structure of bone and cartilage
4. Explain how bones are formed and how they are remodeled
5. Identify two major divisions of the skeleton and list the bones found in each division
6. List and compare the major types of joints and give an example of each
7. Name and describe major disorders of bones and joints

Chapter 9

1. List, locate and compare the structure and function of the three major types of muscle tissue
2. Discuss the microscopic structure of a skeletal muscle sarcomere and motor unit
3. Discuss how a muscle is stimulated and compare the major types of skeletal muscle contractions
4. Name and identify, on a diagram, and give the function of the major muscles in the body
5. List and explain the most common types of movement produced by skeletal muscles
6. Name and describe major disorders of skeletal muscles

Identify common pathology related to each body system including:

1. Signs
2. Symptoms
3. Etiology

Analyze pathology for each body system including:

1. Diagnostics measures
2. Treatments and modalities

** Specific to Digestion

Describe dietary nutrients including

1. carbohydrates
2. fat
3. protein
4. minerals
5. electrolytes
6. vitamins
7. fiber
8. water

Define the function of dietary supplements

Identify the specific dietary needs for:

1. weight control
2. diabetes
3. cardiovascular disease
4. hypertension
5. cancer
6. lactose sensitivity
7. gluten -free
8. food allergies

Chapter 10

1. List the organs and divisions of the nervous system and describe the function of each division
2. Identify the major types of cells in the nervous system and discuss the function of each
3. Identify and discuss the propagation of a nerve impulse along the neuron fiber and across the synapse
4. Describe major nervous system disorders

Chapter 12

1. Distinguish between exocrine and endocrine glands and define the term hormone
2. Identify and locate primary endocrine glands and the major hormones secreted by each
3. Describe the mechanism of nonsteroidal hormones and steroidal hormones
4. Explain negative and positive feedback mechanisms regulate the secretion of endocrine hormones
5. Explain the primary mechanisms of endocrine disease
6. Identify the principal functions of each major endocrine hormone and describe conditions that may result from hyposecretion or hypersecretion

Chapter 13

1. Describe the primary functions of blood
2. Describe the characteristics of plasma and formed elements
3. List the formed elements of blood and identify the most important function of each
4. Explain the steps of blood clotting

5. List and describe major diseases of the blood

Chapter 14

1. Discuss the location, size and position of the heart
2. Identify the basic structures of the heart
3. Trace blood through pulmonary circulation and systemic circulation systems of the heart
4. Explain how a myocardial infarction might occur
5. List the anatomical components of the conduction system
6. List and describe the possible causes of heart failure

Chapter 17

1. Discuss the generalized function of the respiratory system
2. List the major organs of the respiratory system and describe the function of each
3. Compare, contrast and explain the mechanism of gas exchange that occurs during internal and external respiration
4. Identify and discuss the mechanisms that regulate respiration
5. Identify and describe the major disorders of the upper and lower respiratory tract

Chapter 18 and 19

1. List in sequence each of the component parts of the alimentary canal from the mouth to the anus and identify the accessory organs of digestion
2. List and describe the four layers of the alimentary canal
3. List and describe the major disorders of the digestive organs
4. Define and contrast mechanical and chemical digestion
5. Identify and explain the importance of dietary nutrients

6. Define the function of dietary supplements
7. Identify special dietary needs

Chapter 20

1. Identify the major organs of the urinary system and give the generalized function of each
2. Name the parts of the nephron and describe the role each component plays in the formation of urine
3. Explain the importance of filtration, tubular reabsorption, and tubular secretion in urine formation
4. Discuss the mechanisms that control urine formation
5. List the major renal and urinary disorders and explain the mechanism of each

Chapter 23

1. List and essential and accessory organs of the male and female reproductive systems and give the generalized function of each
2. Describe the gross and microscopic structure of the gonads in both sexes
3. Discuss the functions of the sex hormones
4. Identify and discuss the phases of the menstrual cycle
5. List the major disorders of the male and female reproductive systems and briefly describe each