# ANATOMY AND PHYSIOLOGY ANITA MYERS BARKER

### STEM CENTER ROOM 45

THIS CLASS STUDIES THE 11 ORGAN SYSTEMS, THE LEVELS OF ORGANIZATION OF THE ORGAN SYSTEMS, THE ANATOMY OF EACH AND THE PHYSIOLOGY-HOW THE CELLS, TISSUES, ORGANS ALL WORK TOGETHER TO HELP ANIMALS-HUMANS ADAPT AND THRIVE. WE CONCENTRATE ON HOW WE TRY TO STAY IN HOMEOSTASIS AND WHAT HAPPENS IF WE DON'T. THIS CLASS WILL HELP ANY STUDENT THAT WANTS A CAREER IN THE MEDICAL FIELD, WE LEARN BY DOING INTERACTIVE NOTEBOOKS IN WHICH WE TAKE NOTES IN THE FORM OF A QUESTION. WE HAVE COLORING BOOKS AND LABELING SHEETS FOR REPETITION OF LEARNING. ALSO, THERE ARE LAB BOOKS WHICH GIVE US HANDS ON **TECHNIQUES FOR COMPREHENDING VOCABULARY.** GRADES ARE EARNED BY A POINT SYSTEM INSTEAD OF TRADITIONAL. EXAMPLE COPIES OF HOW TO EARN YOUR GRADE ARE GIVEN TO STUDENTS IN CLASS.

TABLE OF CONTENTS FOR THE CLASSROOM

# CH 1: INTRODUCTION TO ANATOMY AND PHYSIOLOGY: AN ORIENTATION

\*Levels of organization

\*Review of 11 organ systems-summary/parts of each

\*Anatomical terminology for anatomical position

- \* Using mannequins and paper skeleton models to practice anatomical terminology
- \*Regional terms
- \*Directional terms
- \*Body planes and sections
- \*Body cavities
- \*Homeostasis
  - -Positive feedback
  - -Negative feedback
- \*Summary and review
- \*Chapter 1 test

#### **CHAPTER 3: TYPES OF TISSUES**

Define the four types of tissues, show examples, learn their different characteristics, and where they are found in the body.

-Epithelial tissue

-Connective tissue

-Muscle tissue

-Nervous tissue

\*Summary and Review

\*Chapter 3 test

### CH. 5: SKELETAL SYSTEM

-Functions of bones

-Classification of types of bones

-Anatomy Structure of bone

-Formation and breakdown of bone

-Axial and appendicular skeleton

-Names of bones in the skull, thoracic cavity, vertebral

column, pelvic girdle, pectoral girdle, upper limbs,

and Lower limbs

\*Types of joints
\*Bone markings
\*Types of fractures
\*Disease states
\*Summary and Review

\*Ch. 5 Test

## CH. 6: MUSCULAR SYSTEM

- \*Types of muscles and characteristics of each
- \*Anatomy of skeletal muscles and how they contract
- \*Functions of muscles
- \*Types of body movements-vocabulary
- \*Arrangement of fascicles-p.203
- \*Origins and insertions-using the mannequins for modeling.
- \*Location and names of muscles in the human body
  - -Skull and neck
  - -Trunk muscles and shoulders
  - -Abdominal muscles- pelvic and hip

- -Arm muscles and hand
- Leg and feet muscles
- \*Summary and review
- \*Chapter 6 Test
- CH 10: BLOOD
- \*Composition of blood
- \*Types of cells-microscope lab looking at stained erythrocytes and leucocytes
- \*Functions of blood
- \*Characteristics of formed elements-5 types of
  - wbcs, rbcs, and platelets
- \*Hemostasis-blood clotting factors
- \* ABO Blood Groups –Lab for blood typing
- \*Summary and Review
- \*Chapter 10 Test

#### CH. 11: CARDIOVASCULAR SYSTEM

\*Anatomy of the heart

\*Types of circulation

-Systemic

-Pulmonary

\*Cardiac cycle and Heart sounds-blood pressure

\*Anatomy of a blood vessel

\*Types of blood vessels and their characteristics

\*Names and location of arteries and veins in the body

with use of mannequins for modeling.

\*Homeostatic imbalance and Disease states

\*Summary and Review

\*Chapter 11 Test

CH. 12: LYMPHATIC SYSTEM

\*Parts of the lymphatic system-vocabulary

\*Inside a lymph node

\*Types of body defenses

\*Model the lymphatic system with mannequins

\*Types of immune system cells

\*The lymphatic system drainage

\*Summary and Review

\*Chapter 12 Test

CH. 14: THE DIGESTIVE SYSTEM

\*Organs of the alimentary canal and functions of each-vocabulary

- \*Accessory digestive organs-liver, gall bladder, and the pancreas
- \*Functions of the digestive system
- \* Model the digestive system with mannequins or with homemade modeling clay by forming life
  - size organs by hand
- \*Homeostatic imbalance and disease states
- \*Nutrition and metabolism

\*Summary

\*Chapter 14 Test

### CH. 15: THE URINARY SYSTEM

\*Organs of the urinary system- vocabulary

\*Location and structure of the organs

\*Urine formation and Nitrogenous waste

\*Model organs or urinary system with mannequins

\*Homeostatic imbalance and disease states

\*Artificial kidney function

\*Water and Electrolyte balance

\*Summary and Review

\*Chapter 15 Test

CH. 13: THE RESPIRATORY SYSTEM

\*Parts of the respiratory-vocabulary

\*Loading and unloading of oxygen and carbon

dioxide in the blood stream

\*Respiratory disorders

\*Summary and Review

\*Chapter 13 Test

#### CH. 16: THE RESPIRATORY SYSTEM

\*Anatomy of the male reproductive system-vocabulary

\*Functions of the male reproductive parts

\*Spermatogenesis-formation of sperm

\*Parts of a sperm

\*Anatomy of female reproductive parts-vocabulary

\*Functions and cycles of female reproductive parts

\*Oogenesis-formation of the egg

\*Video of Life from fertilization until birth

\*Age of fetal stages and development

\*Mammary glands

\*Childbirth

\*Contraception

\*Sexually transmitted diseases

\*Summary and Review

\*Chapter 16 Test

TIME PERMITTING IN A SEMESTER CLASS-

CH. 8: SPECIAL SENSES

CH. 4: THE INTEGUMENTARY SYSTEM

CH. 7: THE NERVOUS SYSTEM