Anatomy & Physiology  
FCHS 2008/2009  

Semester I  

1st Six Weeks  
I. Introduction to Anatomy & Physiology  
   a. Anatomical terminology  
      i. Levels of organization of living things  
      ii. Overview of human systems  
      iii. Anatomical directions  
      iv. Lab – anatomical directions, terms, and locations of the human body  
   b. Cell biology  
      i. Lab – using decalcified egg as a model for osmosis  
      ii. Review cell organelles  

2nd Six Weeks  
II. Histology  
   a. Epithelial tissue  
   b. Connective tissue  
   c. Muscular tissue  
   d. Nervous tissue  
   e. Lab – using the microscope to identify histological slides  
   f. Activity – creating a series of histology flash cards by importing images from the internet  

III. Integumentary System  
   a. Histological features of the integumentary system  
      i. Epidermis and layers  
      ii. Dermis and dermal structures  
      iii. Hypodermis  
      iv. Lab – microscopic identification of layers of integumentary system  
      v. Lab – fingerprinting  
      vi. Activity – skin disorders  
   b. Glandular Epithelial tissue  
      i. Merocrine secretion  
      ii. Apocrine secretion  
      iii. Holocrine secretion  

3rd Six Weeks  
IV. Axial Skeletal System  
   a. Bone histology  
   b. Skull  
   c. Spine and rib cage  
   d. Lab – identify bones and markings of the axial skeleton
e. Activity – create a life-size skeleton with labels

V. Appendicular Skeleton
   a. Upper extremity
   b. Lower extremity
   c. Movements and articulations

VI. Muscular system
   a. Muscle system histology
      i. Cardiac muscle tissue
      ii. Skeletal muscle tissue
      iii. Smooth muscle tissue
   b. Skeletal muscles (30)
      i. Origin, insertion, action
      ii. Synergist, antagonist
      iii. Activity – create a data table of 30 muscles and their origin, insertion, and action
   c. Muscle physiology
      i. Neuromuscular junction
      ii. Sliding filament theory
      iii. Lab – computer software lab
Semester II

4th Six Weeks
I. Blood and Cardiovascular System
   a. Heart
      i. Anatomy
      ii. Pulmonary and systemic circulation
      iii. Regulation of cardiac output
      iv. Lab – pig heart dissection
      v. Lab – cardiac output lab (use computer software)
      vi. View Heart Transplant Video
      vii. Lab – Exercise Lab
   b. Blood
      i. Components of whole blood
      ii. Hematopoiesis
      iii. Lab – Blood Typing
      iv. Lab – Chicken Leg (determine bone marrow, review bones)
      v. Lab – Blood Flow Lab

5th Six Weeks
II. Nervous System
   a. The neuron
   b. Brain
      i. View brain tumor removal video
      ii. Discuss memory and sleep patterns
      iii. Determine if right or left brained
   c. Synaptic communication
   d. Transmission of action potential
   e. Reflex arc
   f. Lab – sheep brain dissection
   g. Lab – reaction time
   h. View Awakenings

6th Six Weeks
III. Cat Dissection
IV. Frog Dissection
V. Cow Eye Dissection
VI. McMush Lab
VII. Elephant Man Lab (if time remains)