Human Anatomy Key Points Unit 1/ Study Guide

I. Anatomy and Physiology
   a. Anatomy
      1. Means "cutting apart" (dissection)
      2. Study of the body and the relationships of its parts to each other.
      3. Dissection is used to study the structure of the human body
   b. Physiology - Studies the normal activity and functions of the body

II. Organization of the Body.
   a. Atoms → Cells → Tissue → Organ → Organ Systems → Organism
   b. Cells are the basic unit of life. Specialized cells are responsible for the functions of growth, secretions, excretions, nutrition, and reproduction
   c. Mechanical, chemical and nervous stimulation activate the cells.

III. Systems
   a. Cardiovascular system
      1. Includes the heart and blood vessels
      2. Carries the blood throughout the body
   b. Digestive or gastrointestinal system
      1. Includes the mouth, esophagus, stomach, and the small and large intestines
      2. Digests and absorbs food and excretes waste
   c. Endocrine system
      1. Made up of a variety of glands
      2. Manufactures and distributes hormones
   d. Integumentary system
      1. Includes the hair, skin, nails, sweat glands and oil glands
      2. Helps protect the body
   e. Lymphatic system
      1. Works with the cardiovascular system
      2. Helps protect the body against disease-causing organisms
   f. Musculoskeletal system (muscular and skeletal may be separate)
      1. Composed of bones, muscles, tendons and ligaments
      2. Provides the framework for the body
      3. Supports organs
4. Permits movement in the body

**g. Reproductive system**
1. Includes the uterus, ovaries, testes, and prostate
2. Provides for reproduction

**h. Respiratory system**
1. Includes the trachea, lungs, and bronchi
2. Provides for the exchange of gases
3. Absorbs oxygen
4. Expels carbon dioxide

**i. Sensory or special senses system**
1. Made up of the eyes, ears, nose, mouth, skin and nerves
2. Acts as the body's external perception/alarm system by letting in light, sound, taste and touch (both pleasure and pain)

**j. Nervous System**
1. Brain, spinal cord and nerves
2. Allows the body to act and respond

**k. Urinary system**
1. Manufactures and excretes urine
2. Includes the kidneys, ureters, urinary bladder, and urethra

**IV. Cavities of the Body**

a. Abdominal cavity
1. Contains the stomach, intestines, liver, spleen, gallbladder, pancreas, ureters, and kidneys
2. Ventral body cavity (located on the front of the body)

b. Cranial cavity
1. The cavity inside the skull, or the cranium
2. Space within the skull containing the brain
3. Cranial means “pertaining to the skull”.
4. Dorsal body cavities (located on the back part of the body)

c. Pelvic cavity
1. Contains the urinary bladder, urethra, uterus and vagina in the female, part of the large intestine and the rectum
2. Ventral body cavity (located on the front of the body)
3. Space below the abdomen
d. Spinal cavity  
   1. Consist of the spinal column connecting to the cranial cavity  
   2. Space within the spinal column (backbone) containing the spinal cord  
   3. Dorsal body cavities (located on the back part of the body)  

e. Thoracic or chest cavity  
   1. Contains the esophagus, trachea, lungs, heart and aorta  
   2. Ventral body cavity (located on the front of the body)  

V. Directional Terms  
   a. Used to pinpoint or specifically locate an area on the body.  
   b. Anatomical position is the body standing, arms at each side, with palms facing forward and the feet side by side  
   c. Ventral  
      1. Anterior  
      2. Refers to the front of the body  
   d. Dorsal  
      1. Posterior  
      2. Refers to the back of the body  
   e. Cephalad  
      1. Above the waistline  
      2. “head” or “upward”  
      3. Superior - “above”  
   f. Caudal  
      1. Below the waistline  
      2. Inferior, below  
   g. Superior and inferior  
      1. Also used to describe body parts in relation to one another in general  
      2. Superior is above  
      3. Inferior is below  
   h. Lateral - sides of the body  
   i. Medial - refers to the middle  
   j. Distal - away from the point of origin  
      1. The foot would be the distal portion of the leg  
   k. Proximal - refers to 'nearest the point of origin", close proximity
1. The upper thigh would be the proximal portion of the leg

l. Ipsilateral
   1. Pertains to one side

m. Contralateral
   1. Pertaining to opposite sides

n. axial—the main part of body, trunk
o. appendicular—arms, legs, head

VI. Body Planes
   a. Anatomical plane
      1. An imaginary flat plate or field
      2. Provide further division of the body, to identify a specific location or area
   b. Frontal or coronal plane
      1. A vertical plane dividing the body into anterior and posterior portions
      2. Anterior/Posterior
   c. Sagittal plane
      1. A vertical plane
      2. Passes from front to back
      3. Divides the body into right and left sides
   d. Transverse plane
      1. A horizontal (cross-section) plane, parallel to the ground and through the waistline
      2. Divides the body into upper and lower halves

VII. Regions of the abdomen
   a. Anatomical divisions of the abdomen used to describe the regions in which organs and structures are found
   b. Used to diagnose abdominal problems with greater accuracy
      Hypochondriac region
      Epigastric region
      Lumbar region
      Umbilical region
      Iliac region
      Hypogastric region
VIII. Quadrants
a. Right upper quadrant, RUQ
b. Left upper quadrant, LUQ
c. Right lower quadrant, RLQ
d. Left lower quadrant, LLQ

IX. Regional Terms (see list from class)