I. Primary Tissues of the Body

1. Types of Tissues
   1. Muscular tissue
      1. Definition:
   2. Nervous tissue
2. Definition:
   1. Epithelial tissue
3. Definition:
   1. Connective tissue
      1. Definition:
      2. Includes:
4. Organization of Tissues
5. Organs  
   Definition and examples:
6. Systems  
   Definition and examples:
7. Skeletal System
   1. Definition:

II. Bone Composition and Structure

1. Chemical Composition of Bone
2. Calcium salts—Provide compressive strength.
   * 1. Compressive strength definition:
3. Collagen fibers—Provide tensile strength.
4. Tensile strength definition:
5. Functions of Bone
6. Support
7. Protection
8. Movement
9. Blood cell production
10. Mineral storage
11. Types of Bone
    1. Long (examples: femur, tibia, fibula, metatarsals, phalanges, humerus, radius, ulna, metacarpals, phalanges)  
       Definition:
    2. Short (examples: carpals, tarsals)  
       Definition:
    3. Flat (examples: ilium, sternum, ribs, scapulae, some bones of the skull)  
       Definition:
    4. Irregular (examples: vertebrae, ischium)  
       Definition:
    5. Sesamoid (example: patella)  
       Definition:
12. Structure of a Bone
    1. Structure of a typical long bone  
       Know the definitions of the following terms and be able to identify them as shown in figure 1.2, page 5. Also, be able to match the term if its definition is provided.)
       1. Compact bone  
          Definition:
       2. Cancellous, or spongy, bone  
          Definition:
       3. Diaphysis  
          Definition:
       4. Epiphysis  
          Definition:
       5. Articular cartilage  
          Definition:
       6. Epiphyseal plate  
          Definition:
       7. Periosteum  
          Definition:
       8. Endosteum  
          Definition:

III. Bone Development and Growth

1. Endochondral Ossification (figure 1.3, page 5)
   1. Used for growth in length of long bone
   2. Epiphyseal plate = growth plate
   3. Process:
   4. Ends with closure of growth plates.
2. Appositional Growth (figure 1.3, page 5)
   1. Used for growth in the girth (circumference) of long bone.
   2. Process:
3. Bone Remodeling
   1. Constant remodeling of bone in response to many factors including mechanical stress
   2. Wolff’s law  
      Definition:
      1. Loading with weight bearing
      2. Muscle contraction
   3. Osteoporosis  
      Definition:
      1. Immobilization
      2. Female athlete triad
   4. Adequate caloric and calcium intake is important for dancers
4. Stress Fracture
5. Definition:

IV. The Human Skeleton

1. The Axial and Appendicular Skeleton  
   Know the names of bones, locations of bones, components of the axial skeleton, components of the appendicular skeleton, and components of the subdivisions of the appendicular skeleton as presented in figure 1.4, page 8. This figure or a portion of this figure will be on the first test, and you will be asked to identify bones that have arrows pointing to them.)
2. Bony Landmarks  
   Specific distinguishing features of a given bone are termed bony landmarks or markings. Examples are provided in table 1.1, page 9, for your reference. These will not be on the first test. However, selected bony landmarks will be required learning in subsequent chapters as they relate to specific joints and body alignment evaluation.

V. Joint Architecture and Classification

1. Classification of Joints  
   (Table 1.2, page 11—Know the definition of each joint and examples in the table.)
2. Fibrous joint
   1. Definition:
   2. Examples:
3. Cartilaginous joint
   1. Definition:
   2. Examples:
4. Synovial joint
   1. Definition:
   2. Example:
5. Characteristics and Structure of a Synovial Joint  
   Be able to name and briefly define the following structures.
6. Structures found in a typical synovial joint (figure 1.5, page 10)
   1. Joint cavity  
      Definition:
   2. Articular cartilage  
      Definition:
   3. Joint capsule  
      Definition:
   4. Synovial membrane and fluid  
      Definition:
   5. Ligament  
      Definition:
7. Specialized structures found in some synovial joints (figures 1.6 and 1.7, page 12)
   1. Fibrocartilage disc  
      Definition:
   2. Fat pad  
      Definition:
   3. Bursa  
      Definition:
   4. Tendon sheath  
      Definition:
   5. Retinaculum  
      Definition:

VI. Body Orientation Terminology

1. Center of Mass  
   Definition:
2. Anatomical Position and Other Positional Terminology  
   (Table 1.3, page 14—Know the definitions for the terms in this table. Also, be able to provide the name that matches a given definition from this table.)
   1. Anatomical position (figure 1.8, page 13)  
      Definition:
   2. Supine  
      Definition:
   3. Prone  
      Definition:
3. Directional Terminology  
   (Table 1.3, page 14—Know the definitions for the terms in this table. Also, be able to provide the name that matches a given definition from this table.)
4. Body Segments and Rotary Motion
   1. Rotary motion  
      Definition:
5. Anatomical Planes and Axes  
   The standard method of describing human movement uses a system of planes and axes.
   1. Cardinal planes (figure 1.9, page 15)  
      Definition:
   2. Basic anatomical planes—Basic anatomical planes include planes that are parallel to the cardinal planes as well as the cardinal planes themselves; practical for movement analysis of many of the joints of the limbs that are not centrally located.  
      (Know the names and definitions of the basic anatomical planes in table 1.4, page 15, and be able to identify the planes shown in figure 1.9, page 15)
   3. Sagittal plane(s)  
      Definition:
   4. Median plane  
      Definition:
   5. Frontal plane(s)  
      Definition:
   6. Horizontal plane(s)  
      Definition:
   7. Basic anatomical axes—Movements in a plane occur about an axis perpendicular to that plane. Hence, there are three reference, or basic, axes that correspond with the three basic anatomical planes.  
      (Know the names and definitions of the basic anatomical axes in table 1.5, page 16.)
   8. Mediolateral axis  
      Definition:  
      Movement examples:
   9. Anteroposterior axis  
      Definition:  
      Movement examples:
   10. Vertical axis  
       Definition:  
       Movement examples:

VII. Joint Movement Terminology

1. Basic Movements  
   (Table 1.6, page 18—Know the name and definitions of the basic movements in this table for test 1. Also, be able to provide the name that matches a given definition from this table.)
2. Specialized Movements  
   (Table 1.6, page 18—Specialized movements will not be covered on test 1, but will be required for future tests involving respective joints.)
3. Joint Movements in the Sagittal Plane  
   (Figure 1.12, page 19—Know the *basic* joint movements that occur in this plane and about which axis they occur for test 1. Also, be able to identify the basic joint movements pictured, if the diagram is provided on the test.)
   1. Basic joint movements in the sagittal plane about a mediolateral axis: Flexion–extension
   2. Specialized joint movements in the sagittal plane about a mediolateral axis: Ankle–foot plantar flexion–dorsiflexion
4. Joint Movements in the Frontal Plane  
   (Figure 1.13, page 20—Know the *basic* joint movements that occur in this plane and about which axis they occur for test 1. Also, be able to identify the basic joint movements pictured, if the diagram is provided on the test.)
   1. Basic joint movements in the frontal plane about an anteroposterior axis:
   2. Specialized joint movements in the frontal plane about an anteroposterior axis:
5. Joint Movements in the Horizontal Plane  
   (Figure 1.14, page 21—Know the *basic* movements that occur in this plane and about which axis they occur for test 1. Also, be able to identify the basic joint movements pictured, if the diagram is provided on the test.)
   1. Basic joint movements in the horizontal plane about a vertical axis:
   2. Specialized joint movements in the horizontal plane about a vertical axis:
6. Complex Movements Not in the Basic Planes
   1. Circumduction (figure 1.15, page 22)  
      Definition:
   2. Many dance movements do not occur in the three basic planes; they can be described as occurring in a diagonal plane or as multiplanar movements (figure 1.16, page 23).

VIII. Subclassification of Synovial Joints  
Synovial joints can be further classified into six types based on the shape and configuration of the ends of the bones that come together to form the joint.  
 (Table 1.7, page 24—Know the names, number of axes, movements allowed, and examples of the six types of synovial joints in the table.)

1. Uniaxial
   1. Hinge
   2. Movements:
   3. Example:
   4. Pivot
   5. Movements:
   6. Example:
2. Biaxial
3. Condyloid
   1. Movements:
   2. Example:
4. Saddle
   1. Movements:
   2. Example:
5. Triaxial
6. Ball-and-socket
   1. Movements:
   2. Example:
7. Nonaxial
8. Gliding
   1. Movements:
   2. Example:

IX. Skeletal Considerations in Whole-Body Movement

1. Joint Stability and Mobility
   1. Joint stability  
      Definition:
   2. Joint mobility  
      Definition:
2. Close-Packed and Loose-Packed Positions of Joints
   1. Close-packed position  
      Definition:
   2. Close-packed position occurs in extension for knee, elbow, wrist, and fingers (IP joints); dorsiflexion for ankle.
   3. Loose-packed position  
      Definition:
3. Closed and Open Kinematic Chain Movements (figure 1.17, page 27)
4. Closed kinematic chain  
   Definition:
5. Open kinematic chain  
   Definition: