CHAPTER 7: Bone Tissue

1) Know the six primary functions of the skeletal system.

2) Be able to identify the following structures associated with a long bone:
   Diaphysis, distal and proximal Epiphysis, Metaphysis, Articular cartilage, Periosteum, Sharpey fibers, Medullary cavity, Nutrient foramen, Endosteum, Epiphyseal Line

3) Know the following structures associated with the histology of bone tissue:
   A) Cells: osteoprogenitor cells, osteoblasts, osteocytes, osteoclasts, 
   B) Structures or Terms: compact bone, Volkmann's canals, Haversian canals, concentric lamellae, interstitial lamellae, circumferential lamellae, osteon, lacuna, canaliculi, cancellous bone (spongy or diploic), trabeculae, organic matrix or collagen fibers, mineral matrix or hydroxyapatite

4) know the steps in Intramembranous ossification.
   Also, know the bones that are formed via this type of ossification.

5) Know the steps involved in the process of Endochondral ossification.

6) Know the steps and zones associated with bone growth at the epiphyseal plate.
   Zones: Reserve cartilage, Cell Proliferation, Cell hypertrophy, Calcification, Bone deposition
   Understand the process of bone growth and remodeling. (textbook & PowerPoint)

7) Know the steps involved in bone fracture repair.
   Fracture hematoma, fibrocartilage (soft) callus, bony (hard) callus, Bone remodeling

8) Know the following types of fractures and terms used to describe them:
   A) Terms: closed / open, (simple / compound), Displaced/nondisplaced
   B) Fractures: greenstick, spiral, comminuted, compression, epiphyseal, transverse, Pott's, and Colles'.

9) Know the glands and hormones involved in calcium homeostasis; hormones that control normal bone growth, remodeling and repair, and vitamins and minerals required for normal bone growth, remodeling and repair.

10) Know the following bone disorders or medical terminology: osteoporosis, rickets, osteomyelitis, osteopenia, osteomalacia, and scurvy, hypocalcemia, hypercalcemia
Chapter 8: The Skeletal System: The Axial Skeleton

1) Know the bones, bone processes, and terms listed on the lab sheets.

2) Know the following medical terminology and disorders: Craniostenosis, Kyphosis, Lordosis, Scoliosis, Spina bifida.

Chapter 8: The Skeletal System: The Appendicular Skeleton

1) Know the bones, bone processes, and terms on the bone list.

2) Know the following medical terminology and disorders: congenital talipes equinovarus, carpal tunnel syndrome.

Chapter 9: Articulations

1) Know the structural and functional classification used for joints:
   
   A) Synarthroses (suture, gomphosis, synchondrosis)
   B) Amphiarthroses (syndesmosis, symphysis)
   C) Diarthroses (synovial joints)

2) Know the following structures that are found in synovial joints and the details of the knee joint as a synovial joint:
   synovial cavity, articular capsule, synovial membrane, synovial fluid, articular cartilage, meniscus, joint capsule, ligaments, periosteum, bursae.

3) Know the following types of diarthroses and know examples for each:
   gliding, hinge, pivot, ellipsoidal (condyloid), saddle, and ball & socket.

4) Know the following movements that occur at diarthritic joints:
   flexion/extension, hyperextension, abduction/adduction, circumduction, inversion/eversion; dorsiflexion/plantar flexion, protraction/retraction, supination/pronation, elevation/depression, opposition, lateral flexion, lateral & medial rotation.

5) Know the deep or internal anatomical components of the tibiofemoral (knee) joint.

6) Know the following disorders and medical terminology:
   arthritis, rheumatism, rheumatoid arthritis, osteoarthritis, bursitis, laminectomy, herniated disc, luxation, subluxation, sprain, bunion.
GENERAL ANATOMICAL TERMS FOR VARIOUS FEATURES OF BONES

TERM DESCRIPTION

Major Features
Body Main portion
Head Enlarged (often rounded) end
Neck Constricted area (between head and body)
Margin or border Edge
Angle Bend
Ramus Branch off the body (beyond the angle)
Condyle Smooth, rounded articular surface
Facet Small, flattened articular surface

Ridges
Line or linea Low ridge
Crest or crista Prominent ridge
Spine Very high ridge

Projections
Process Prominent projection
Tubercle Small, rounded process
Tuberosity tuber Knoblike process; usually larger than a tubercle
Trochanter Large tuberosity found only on the proximal femur
Epicondyle Near or above a condyle
Lingula Flat, tongue-shaped process
Hamulus Hook-shaped process
Cornu Horn-shaped process

Openings
Foramen Hole
Nutrient foramen Conveys blood vessels supplying the bone itself
Canal or meatus Tunnel
Fissure Cleft
Sinus Cavity or labyrinth Cavity

Depressions
Fossa General term for a depression
Impression Indentation made by a specific structure
Notch Depression in the margin of a bone
Fovea Little pit
Groove or sulcus Deeper, narrow depression