Exercise 9: Overview of the Skeleton: Classification and Structure of Bones and Cartilages

- Be able to list the five functions of the skeletal system.
- Be able to locate and identify the three cartilage tissue types.
- How many bones are in the adult skeleton?
- What is the difference between a compact bone and a spongy (or cancellous) bone?
- Where is a compact bone and spongy bone found in the skeletal system?

Classification. Be able to identify the four main groups and the two subcategories of bones:

long	flat	wormian or sutural
short	irregular	sesamoid

Bone Markings. Be able to identify and/or give a description (function) of the following surface bone markings from Table 9.1 using the axial and appendicular skeletons:

ramus	fossa	epicondyle
meatus	tuberosity	spine
groove	condyle	crest
foramen	trochanter	head
fissure	tubercle	

Gross Anatomy Be able to identify the major anatomical areas on a longitudinally cut long bone using the listed below:

➢Note: if you are unable to identify from Figure 9.3 then know the definition.

diaphysis	medullary cavity	red marrow
endosteum	perforating (Sharpey's) fibers	adipose tissue, or yellow marrow
epiphysis	osteoblasts	trabeculae
epiphyseal line	osteoclasts	
epiphyseal plate	periosteum	

Microscopic Structure: Be able to identify the major regions and structures of an osteon in a histologic specimen of compact bone using models and/or diagram (Figure 9.4):

central (Haversian) canal	canaliculus (pl. canaliculi)	
lacuna (pl. lacunae)	perforating (Volkmann's) canal	osteon (Haversian system)
osteocyte	lamella (pl. lamellae)	circumferential lamellae

- Be able to identify the following structures using a microscope slide.

central (Haversian) canal	Perforating (Volkmann's) canal
osteocyte	Canaliculus