

**CSM Bio 250 Anatomy
Skeletal System Lab Guide**

**HISTOLOGY – ID the following in the slides
or on model**

compact bone -haversian systems (osteons),
Haversian (central) canal, concentric lamellae,
interstitial lamellae, osteocytes, lacunae,
canaliculi, perforating (Volkmanns) canals
spongy bone - trabeculae

**Know all bones articulated and disarticulated
except hands and feet, bones that will only be
seen articulated. Also know right from left
where appropriate.**

AXIAL SKELETON

Skull

frontal bone

frontal sinus

occipital bone

foramen magnum

occipital condyle and atlanto-occipital
joint

sphenoid bone

sella turcica

optic foramen/canal

sphenoidal sinus

ethmoid bone

crista galli

cribriform plate

superior and middle conchae

perpendic. plate(nasal septum)

ethmoidal sinus

temporal bones

carotid canal

petrous portion

internal auditory meatus

external auditory meatus

jugular foramen

mandibular fossa

(temporomandibular joint)

mastoid process

parietal bones

mandible

body

angle

coronoid process

condyloid process

(mandibular condyle)

alveolar process

maxillae

alveolar process

maxillary sinus

palatine process

zygomatic bones

nasal bones

vomer

inferior nasal conchae

lacrimal bones

palatine bones

Cranial Structures

sutures:

-coronal suture

-sagittal suture

-lambdoidal suture

-squamosal suture

paranasal sinuses

zygomatic arch

orbit

supraorbital margin

superior orbital fissure

inferior orbital fissure

optic canal

anterior cranial fossa
middle cranial fossa
posterior cranial fossa

Skull of Newborn

-anterior/frontal fontanel and others

hyoid bone

ear ossicles

malleus
incus
stapes

Vertebral Column

typical vertebra

body(with intervertebral disc)
spinous process
transverse process
vertebral foramen
superior articular process and facet
inferior articular process and facet

cervical vertebrae

transverse foramen(cervical only)

atlas - lacks a body

-anterior arch w/ fovea dentis
-lateral mass with superior and inferior
articular processes

axis

-dens/odontoid process

atlanto-axial joint

thoracic vertebrae

costal facets

lumbar vertebrae

intervertebral joints between bodies

intervertebral joints between articular facets

sacrum

-superior articular process and
facet
-median crest
-lateral mass with auricular surface for
articulation with ilium
-pelvic surface with foramina
-dorsal surface with foramina
-sacral canal

7. coccyx

curves of the spine, scoliosis, kyphosis, lordosis

Ribs

Typical

head with facets or demifacets
neck
tubercle with articular facet
angle
costal groove

Atypical

1. First and second rib

-head with one articular facet
-prominent and thick tubercle
-no angle
-no costal groove

2. Eleventh and twelfth/floating ribs

- head with one articular facet
-no neck or tubercle
-costal groove shallow or
nonexistent

intercostal space

vertebrocostal joints

sternum

costal cartilage
manubrium
sternal angle
body of sternum
xiphoid process

sternocostal joints

APPENDICULAR SKELETON

Pelvic Girdle

symphysis pubis
greater/false pelvis
lesser/true pelvis

os coxa (ossa coxae pl.)

acetabulum (for hip joint)
obturator foramen
ilium

iliac crest
auricular surface

ischium
ischial tuberosity
ischial spine

pubis

sacroiliac joint

sex differences in pelvis – pubic arch

clavicle

acromial end
sternal end
sternoclavicular joint
acromioclavicular joint

scapula

spine
supraspinous fossa
infraspinous fossa
glenoid cavity/fossa
shoulder joint
coracoid process
subscapular fossa
(supra)scapular notch
acromial process/acromion

humerus

head
shaft
anatomical neck
surgical neck
greater tubercle
lesser tubercle
deltoid tuberosity

nutrient foramen
capitulum
trochlea
medial epicondyle
lateral epicondyle
coronoid fossa
olecranon fossa

ulna

semilunar/trochlear notch
coronoid process
olecranon process
radial notch and radioulnar joint
interosseous crest/border
head
styloid process

radius

Shaft/diaphysis
Head and radioulnar joint
Radiohumeral joint
radial tuberosity
styloid process
ulnar notch

elbow joint

wrist joint

carpals: intercarpal joints
navicular/scaphoid
lunate
triquetral
pisiform
trapezium
trapezoid
capitate
hamate

metacarpals, carpometacarpal joint of thumb

phalanges - distal, middle, proximal
interphalangeal joints

femur

head and hip joint
fovea capitis

neck
shaft
greater trochanter
lesser trochanter
medial condyle
lateral condyle
intercondylar fossa
patellar surface
medial epicondyle
lateral epicondyles

arches of feet
longitudinal – medial and lateral
transverse

patella and patellar-femoral joint
knee joint

tibia
medial condyle
lateral condyle
intercondylar eminence
tibial tuberosity
anterior crest
medial malleolus
fibular notch

fibula
head
lateral malleolus

Ankle and Foot

ankle joint

tarsals:

talus

calcaneus

tuberosity of calcaneus

navicular

first/medial cuneiform

second/intermediate cuneiform

third/lateral cuneiform

cuboid

metatarsals

phalanges