

<u>Lecture Date</u>	<u>Topic</u>	<u>Reading in Marieb, Mallatt, and Wilhelm</u>
L1 Tues 1/13	Introduction to anatomy; cells, histology, and tissue types	Ch. 1 & 2

Although some of this material will not be covered in lecture, it is a basic vocabulary for understanding anatomy. These terms will be used frequently throughout the course and therefore you will need to be familiar with them.

Chapter 1

anatomy—the study of the structure of the human body

gross anatomy—the study of body structures that can be examined without a microscope

surface anatomy—the study of shapes and markings (called “landmarks” on the surface of the body, that reveal the underlying organs

microscopic anatomy or histology—the study of body structures using a microscope

Levels of structural complexity (Fig. 1.1)

chemical level

cellular level

tissue level

organ level

system level (integumentary (skin), skeletal, muscular, digestive, respiratory, cardiovascular, nervous, lymphatic, immune, urinary, reproductive, endocrine)

organism level

tissue—a group of cells that work together to perform a common function

organ—a discrete structure made up of more than one tissue. Most organs contain all four tissues.

organ system—a group of organs that work together to perform a common function

Anatomical position (Fig. 1.3)

Divisions of the body (Fig. 1.3)

Axial region

head

neck

trunk

thorax

abdomen

pelvis

perineum (region around the anus and external genitals)

Appendicular region

upper limb

lower limb

Regional terms (Fig. 1.4)

Cephalic (head)

- frontal
- orbital
- nasal
- oral
- mental
- otic
- occipital (back of head)

Cervical (neck)

Thoracic (chest)

- sterna (near the sternum)
- axillary (region of the armpit)
- mammary

Back (dorsal)

- scapular
- vertebral
- lumbar
- sacral
- gluteal
- perineal (region between the anus and external genitalia)

Abdominal

- umbilical

Pelvic

- inguinal (groin)

Pubic (genital)

Upper limb

- acromial (the acromion process is an anatomical feature on the scapula, that forms the summit of the shoulder)
- brachial (arm)
- antecubital (the region of the arm in front of the elbow)
- olecranal (large process that forms the point of the elbow)
- antebrachial (forearm)
- carpal (wrist)

Manus (hand)

- pollex (the thumb)
- metacarpal
- palmar
- digital

Lower Limb

- coxal (hip)
- femoral (thigh)
- patellar (kneecap)
- popliteal (hollow part of the leg behind the knee joint)
- crural (leg)
- sural (calf)
- fibular or peroneal (lateral compartment of the leg)

Pedal (foot)
tarsal (ankle)
calcaneal (region overlying the calcaneous or heel)
metatarsal
digital
plantar (sole of the foot)
hallux (big toe)

Orientation and directional terms (Table 1.1)

superior (cranial)
inferior (caudal)
anterior (ventral)
posterior (dorsal)
medial
lateral
proximal
distal
superficial (external)
deep (internal)
ipsilateral
contralateral

Planes of the body (Fig. 1.5)

frontal (coronal)
transverse (horizontal)
sagittal
 median (midsagittal section)
 parasagittal

Body cavities and membranes (Fig. 1.9)

dorsal body cavity
 cranial cavity
 vertebral cavity (contains spinal cord)
ventral body cavity (thoracic cavity and abdominopelvic cavities)
 thoracic cavity (contains heart and lungs)
 superior mediastinum (contains trachea and esophagus)
 lung and pleural cavity
 mediastinum (with heart and pericardial cavity)
 abdominal cavity (contains digestive viscera, kidneys, and peritoneal cavity)
 pelvic cavity (contains bladder, reproductive organs, rectum and peritoneal cavity)

Serous membranes (Fig. 1.10)

serous membrane or serosa (plural, serosae)
 pleura
 serous pericardium
 peritoneum
visceral membrane
parietal membrane

Serous cavities (Fig. 1.10)

- pleural cavity
- pericardial cavity
- peritoneal cavity

Other cavities (Fig. 1.11)

- oral cavity
- nasal cavity
- orbital cavities
- middle ear cavities
- synovial cavities

Chapter 2

Know the structure and function of the following 9 cytoplasmic organelles (Table 2.1):

1. ribosomes
2. rough endoplasmic reticulum
3. smooth endoplasmic reticulum
4. Golgi apparatus
5. lysosomes
6. mitochondria
7. peroxisomes
8. centrioles
9. cytoskeleton
 - microtubules (tubulin)
 - microfilaments (actin)
 - intermediate filaments (composition varies)

Additional vocabulary

plasma membrane (plasmalemma)

endocytosis

- phagocytosis
- pinocytosis (fluid-phase endocytosis)
- receptor-mediated endocytosis

exocytosis

cytoplasm

- cytosol
- organelles
- inclusions (include pigments, crystals of protein, lipid droplets, glycosomes)

nucleus

nuclear envelope

nucleoli

chromatin

chromosomes

mitosis

cytokinesis