Chapter 13 Respiratory System
1. List the functions of the respiratory system and respiratory tract.
2. List the organs that make up the respiratory tract.
3. Recognize and understand the role of the accessory structures.
4. Identify the epithelial layer for each section of the respiratory tract.
5. Describe the structure of the larynx, trachea, bronchi, pharynx, nasal cavity, bronchioles, alveolar. Know what respiratory tubes have cartilage.
6. List structures that are part of the conducting zone and those that are part of the respiratory zone.
7. Identify the area of gas exchange. Describe the area of gas exchange including: alveolar type I and II cells, macrophages, capillaries and connective tissue.
8. Give the lung division served by primary, secondary and tertiary bronchi. Identify the smallest lung division and what respiratory tube serves it.
9. Distinguish between the right and left lungs.
10. Identify and describe the hilus, parietal and visceral pleura, pleural cavity and chest wall.

Lab 11 - Respiratory System
Be able to identify and give the function of each structure listed below.
Whole and sagittal sections of skull
nasal bones, perpendicular plate of ethmoid, paranasal sinuses
nasal cavity, hard palate (maxilla, palatine)
vomer

Sagittal section of human head
nasal mucosa, soft palate, pharynx, tracheal rings
nasal septum, horizontal process of palatine, nasopharynx, larynx
superior & middle conchae (part of ethmoid bone), opening of eustachian tube, oropharynx, epiglottis
inferior conchae, true vocal cords, laryngopharynx, thyroid cartilage
hard palate, sphenoid sinus, esophagus, cricoid cartilage
palatine tonsils, trachea, false vocal cords

Model of larynx
thyroid cartilage, epiglottis, hyoid bone
crioid cartilage, tracheal rings, false vocal cords

Model of bronchial tree
primary bronchi (one to each lung)
secondary bronchi (one to each lobe - two on left and three on right)
tertiary bronchi (one to each bronchiopulmonary segment - ten per lung [20 total])

Model and pictures of lungs
superior, middle and inferior lobe of right lung, trachea
superior and inferior lobe of left lung, visceral and parietal pleura
pulmonary arteries and veins, pleural cavities

Lung slides
respiratory bronchioles, alveolar ducts, alveolar sacs, alveoli
Chapter 24 Digestive System
1. Give the two primary functions of the digestive system.
2. List the other activities of the digestive tract that support the primary functions of the digestive system.
3. List, give the function of, and be able to locate on models and pictures each digestive system organ and accessory organ.
4. Describe and/or identify the macroscopic and microscopic structure of the oral cavity, esophagus, stomach, small intestines, colon, rectum, anus, pancreas and liver.
5. Describe the blood flow to and from the liver.
6. Give the source of bile and be able to trace its path from the source to its destination in the digestive tract.
7. Be able to draw/describe the four layers of the digestive tract and the structural features of each layer.
   Know where the myenteric plexus and submucosal plexus are located. Recognize the variations of the esophagus, stomach, small intestines and colon.
8. Understand what structural features enhance absorption.

Lab 12 - Digestive System
Be able to identify and give the function of each structure listed below.

Models and pictures
oral cavity           stomach: cardia      liver      ascending, transverse and descending colon
hard and soft palates   fundus          pancreas   hepatic flexure (colon)
tongue                pylorus        gall bladder splenic flexure (colon)
pharynx               body           ileocecal valve sigmoid colon
esophagus             small intestine cecum         rectum
parotid, submandibular and sublingual glands duodenum appendix
                       jejunum         ileum          anus
right and left lobes of the liver hepatic ducts (right & left) common hepatic duct pancreas
bile duct                     common bile duct pancreatic duct
gallbladder

Be able to recognize the following organs based on their histology.
    esophagus      stomach      small intestine      colon

Organ slides
1. mucosa: epithelium, lamina propria & muscularis mucosa
2. submucosa
3. muscularis
4. serosa

Slides or pictures
liver           portal area         bile duct     pancreas
hepatocytes     portal vein        central vein islets of Langerhans
                hepatic artery     pancreas      acinar cells
**Chapter 15 Urinary System**

1. Give the primary function of the urinary system and the processes that support that function.
2. List, give the function of, and be able to identify on models and pictures each urinary system organ.
3. Describe and/or identify the macroscopic and microscopic structural features of the kidney, ureter, bladder and urethra covered in class.
4. Describe the blood flow through the kidney.
5. Describe the flow of filtrate (destined to become urine) through the kidney and onward to the opening of the urethra.

**Lab 13 - Urinary System**

Be able to identify and give the function of each structure listed below.

- **Kidney model**
  - renal artery and vein
  - renal pelvis
  - renal cortex
  - renal medulla
  - renal pyramids
  - renal papilla
  - ureter
  - major calyces
  - minor calyces
  - renal cortex
  - renal medulla
  - renal pyramids
  - renal papilla

- **Nephron model**
  - glomerulus
  - Bowman’s capsule (glomerular capsule)
  - visceral layer (podocytes)
  - parietal layer
  - capsular space
  - afferent arteriole
  - efferent arteriole
  - proximal convoluted tubule
  - distal convoluted tubule
  - loop of Henle
  - collecting duct

- **Kidney slides**
  - cortex
  -Bowman’s capsule
  - glomerulus - these capillaries are covered with podocytes
  - medulla
  - parietal layer
  - convoluted tubules
  - collecting ducts
  - capsular space

**Chapter 16 Reproductive System**

1. Give the primary function of the reproductive system.
2. List the primary sex organs and their functions.
3. Identify the organs/structures of the male reproductive system and understand what each structure does.
4. Know where sperm are formed and the route they take to leave the body.
5. Discuss the composition of semen and name the glands that contribute to it.
6. Identify the organs/structures of the female reproductive system and understand what each structure does.
7. Identify follicles including oocytes, granulosa cells and antrum in pictures of the ovary.
8. Understand the two ovarian phases of the menstrual cycle (follicular and luteal) and the ovarian structures that dominate each phase.
9. Describe the three uterine phases of the menstrual cycle in terms of the uterine lining (endometrium).
10. Differentiate myometrium from endometrium.

**Lab 14**

Be able to identify and give the function of each structure listed below.

- **Male reproductive system models and pictures**
  - penis
  - glans
  - testis
  - ureter
  - ejaculatory duct
  - corpora cavernosa (dorsal)
  - urethra
  - epididymis
  - spermatic cord
  - seminal vesicles
  - corpus spongiosum
  - scrotum
  - vas deferens
  - inguinal canal
  - prostate gland
  - rectum
Penis slides
epidermis       corpora cavernosa       urethra
dermis          central artery of corpus cavernosum       corpus spongiosum

Female reproductive system models and pictures
vulva           vagina                broad ligament
mons pubis      cervix and cervical canal       ovaries
labia: labia majora & labia minora     uterus       fallopian tubes (oviduct)
citoris         periometrium       bladder
urethral orifice myometrium       pubic symphysis
vaginal orifice endometrium       rectum
greater vestibular glands round ligaments       anal sphincter

Ovary slides
primordial follicles secondary follicles: follicle cells mature follicles: follicle cells
primary follicles oocyte (Graafian follicle) oocyte

Uterus slides
Be able to identify the uterine stage: menstrual, proliferative, or secretory stage.

Chapter 9 Endocrine System
1. Give the primary function of the endocrine system. (Regulating and controlling functions of the body.)
2. Define hormone and target.
3. Differentiate between an endocrine and exocrine gland.
4. Know the location of and primary function of each endocrine organ.

<table>
<thead>
<tr>
<th>Endocrine Gland</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>hypothalamus</td>
<td>controls anterior pituitary</td>
</tr>
<tr>
<td></td>
<td>produce posterior pituitary hormones (ADH and Oxytocin)</td>
</tr>
<tr>
<td>posterior pituitary</td>
<td>regulate blood pressure and water balance (ADH)</td>
</tr>
<tr>
<td>(terminal boutons)</td>
<td>contract uterine and mammary gland smooth muscle (Oxytocin)</td>
</tr>
<tr>
<td>anterior pituitary</td>
<td>growth and development (growth hormone)</td>
</tr>
<tr>
<td>(5 types of cells)</td>
<td>mammary gland development and milk production (prolactin)</td>
</tr>
<tr>
<td></td>
<td>control gonads (FSH/LH)</td>
</tr>
<tr>
<td></td>
<td>control thyroid (TSH)</td>
</tr>
<tr>
<td></td>
<td>control adrenal cortex (ACTH)</td>
</tr>
<tr>
<td>pineal gland</td>
<td>involved in biological rhythms (melatonin)</td>
</tr>
<tr>
<td>thyroid</td>
<td>basal metabolism (thyroid hormones)</td>
</tr>
<tr>
<td></td>
<td>calcium balance (calcitonin)</td>
</tr>
<tr>
<td>parathyroid</td>
<td>calcium balance</td>
</tr>
<tr>
<td>pancreas</td>
<td>blood sugar balance</td>
</tr>
<tr>
<td>adrenal cortex</td>
<td>mineral balance (mineralocorticoids - aldosterone)</td>
</tr>
<tr>
<td></td>
<td>blood sugar balance, immune system modulation (glucocorticoids - cortisol)</td>
</tr>
</tbody>
</table>