Lab 10: Basic Mammalian Anatomy I
Mammals

- **Endothermic** – “warm blooded,” meaning they regulate their own body temperature
- **Hair** – provides insulation
- **Mammary glands** – allows mother to nurse young without leaving to find food
- 25% of the world’s mammals are on brink of extinction!
Mammals

- Mammalia
  - Placentals
    - Internal development
  - Marsupials
    - Pouches
  - Monotremes
    - Lay eggs
Fetal Pig Dissection

- 16.1 – External Anatomy
- 16.2 – Oral Cavity and Pharynx
- 16.3 – Thoracic and Abdominal Incisions
- 16.4 – Neck Region
- 16.5 – Thoracic Cavity
- 16.6 – Abdominal Cavity
External Anatomy

- **Umbilical cord** – connects fetus to placenta of the mother. **Oxygen** \((O_2)\) and **nutrients** go into fetus, while **carbon dioxide** \((CO_2)\) and **waste** leave via umbilical cord.
External Anatomy

- Determine the sex of your pig
- Locate **urogenital opening** – serves both urinary and reproductive functions
- Look at the group nearby to see the other sex
Oral Cavity

- Locate the **hard palate** – ridged roof of the mouth which separates the oral cavity from the nasal passages.

- Locate the **soft palate** – smooth region behind the hard palate (posterior).
Pharynx
Pharynx

- **Epiglottis** – flap which folds over the opening of the trachea to prevent food from entering
- **Glottis** – top of the esophagus
- **Esophagus** – carries food to the stomach
- **Trachea** – carries air to the lungs
Thoracic and Abdominal Incisions

- Never point the scissors toward yourself when cutting
- The first incision should be posterior to anterior above diaphragm
- Keep diaphragm intact!
Neck Region

Locate:

- **Thymus gland** – part of the immune system, T-lymphocytes (WBCs) are produced here.
- **Thyroid gland** – secretes hormones into the blood which regulates metabolism
- **Larynx, trachea, esophagus**
Thoracic Cavity

- **Thoracic cavity** – the chest cavity made of ribs, muscle and fascia that protect the vital organs: heart and lungs.

- Separated from abdominal cavity by diaphragm.
Thoracic Cavity

• The heart is covered with a thin clear membrane called the **pericardium**.

• On the left and right of the heart are the lungs.
Abdominal Cavity

Peritoneal membranes enclose organs of the abdominal cavity

Liver
- produces **bile** which helps breakdown fats
- breaks down RBCs
- stores glycogen
- control blood sugar level
- makes blood proteins
Abdominal Cavity

Pushing the liver aside will reveal:

- **Stomach** – stores food and secretes gastric juice which digests protein.
- **Spleen** – purifies blood and destroys old RBCs
Abdominal Cavity

Lifting up the liver will reveal:

- **Gallbladder** – stores bile from liver
- **Bile duct** – transports bile to the duodenum
Abdominal Cavity

- **Duodenum** – first part of the small intestine
- **Small intestine** – digests food, absorbs nutrients
- **Large intestine** – Absorbs water and preps feces
Abdominal Cavity

**Pancreas** – under spleen

- produces *pancreatic juice* which digests food in the small intestine
- secretes hormone insulin and glucagon into bloodstream to regulate glucose levels.
Abdominal Cavity

- **Rectum** – end section of the large intestine that leads to the **anus**.
Finishing Up

- **Save your pig!** We are going to use it again. Put it back in bag with wet paper towels and label.

- Clean your workstation with disinfectant spray. Rinse utensils.
Reminders

Schedule change: Tues Nov 22\textsuperscript{nd}

Final Practical Exam: Dec. 8\textsuperscript{th}