

- **Valves**
  - bicuspid valve (mitral valve)
  - tricuspid valve
  - pulmonic semilunar valve
  - aortic semilunar valve

**The student will identify the layers of the heart wall:**

- endocardium
- myocardium
- epicardium

**The student will identify the electrocardiogram waves and explain what each wave represents.**

- P wave
- QRS complex
- T wave

**The student will recognize slides and specific structures & layers as follows:**

- ❖ cardiac muscle- intercalated disc
- ❖ artery – elastin fibers
- ❖ vein – valve
- ❖ tunica interna, tunica media, and tunica externa (on vein & artery)

**The student will identify the structures & layers on the blood vessel models:**

- artery
- vein – valve
- tunica externa (adventitia)
- tunica media (smooth muscle)
- tunica intima (interna) – location of endothelial cells

**The student will locate the following on the cat, fetal pig or >models and identify as right or left and as artery or vein: (> symbol represents identify on models only and < symbol represents to identify cat in addition to model and fetal pig)**

- < coronary arteries
- ascending aorta
- descending aorta (3 divisions)
  - < aortic arch
  - < thoracic aorta
  - < abdominal aorta (after it passes thru diaphragm)
- < pulmonary trunk
- right/left pulmonary artery
- right/left pulmonary vein
- < superior vena cava (anterior vena cava on cat and pig (4 legged animals))
- < inferior vena cava (posterior vena cava on cat and pig (4 legged animals))
- < brachiocephalic artery ( to right side from arch)
- < right/left brachiocephalic veins
- < right/left common carotid artery
- < right/left external jugular vein
- < right/left subclavian artery & vein
- < right/left renal artery & vein

- C right/left common iliac artery & vein
- C right/left femoral artery & vein
- umbilical artery & vein (fetal pig only)
- > right/left brachial artery & vein
- > right/left ulnar artery & vein
- > right/left radial artery & vein
- > right/left popliteal artery
- > right/left great saphenous vein
- > right/left median cubital vein
- > splenic artery & vein
- > superior & inferior mesenteric artery & vein

**The student will know the following fetal shunts**

- foramen ovale/fossa ovalis
- ductus arteriosus/ligamentum arteriosum
- ductus venosus/ligamentum venosum
- umbilical vein/ligamentum teres
- umbilical arteries/umbilical ligaments

**The student will know the procedure for taking blood pressure and will recognize and explain how the following instruments are used:**

- EKG machine
- Sphygmomanometer
- Stethoscope
- Sounds of Korotkoff
- Auscultation

**The student will understand completely and be able to explain pressures and relationship to ventricular systole & ventricular diastole:**

- systolic pressure
- diastolic pressure

**The student will identify which artery is occluded when measuring blood pressure.**

**How do blood pressure and heart rate correspond to increasing workloads as investigated in the bike exercises/treadmill?**

**The student will identify the normal changes in blood pressure occurring during the following:**

- Posture changes- from standing to lying down; lying down to standing (orthostatic hypotension)
- Cold
- Exercise
- Smoking

**The student will be able to trace a drop of blood on route through the heart and identify each structure (include chambers, valves, vessels) from a labeled heart model.**

- The student will be asked to identify which was the last or next structure blood passed (or will pass) from a specific labeled point.

**The student will be able to describe the procedures and explain each exercise done in lab**