Blood Vessels and Cardiovascular Physiology
Lab 4 Objectives

Watch the vasculature video to get oriented (no need to take notes)
Read lab Exercises 32 & 33A / 33
For Exercise 32, do Activities 1 - 7 in 9th edition
For Exercise 33A / 33, do Activities 1, 2, 5, 7 in all editions
Perform cat dissection (optional as per instructor)
Observe fresh specimens if available

Exercise 32 Activity 1
Identify histological features of
Artery/Vein cross section slide
Distinguish artery vs. vein
Tunica interna/intima
Tunica media
Tunica externa/adventitia

Exercise 32 Activities 2 -5, 7 in 9th edition, Activities 2 -4, 6 in 10th 11th and 12th editions
Identify vessels on charts and models

<table>
<thead>
<tr>
<th>Arteries</th>
<th>Veins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulmonary trunk</td>
<td>Pulmonary veins</td>
</tr>
<tr>
<td>R/L Pulmonary arteries</td>
<td>Superior vena cava</td>
</tr>
<tr>
<td>Aortic arch</td>
<td>R/L Brachiocephalic veins</td>
</tr>
<tr>
<td>Brachiocephalic trunk</td>
<td>R/L Subclavian veins</td>
</tr>
<tr>
<td>R/L Subclavian arteries</td>
<td>R/L External jugular veins</td>
</tr>
<tr>
<td>R/L Common carotid arteries</td>
<td>R/L Internal jugular veins</td>
</tr>
<tr>
<td>R/L Axillary arteries</td>
<td>R/L Axillary veins</td>
</tr>
<tr>
<td>R/L Brachial arteries</td>
<td>R/L Brachial veins</td>
</tr>
<tr>
<td>R/L Radial arteries</td>
<td>R/L Radial veins</td>
</tr>
<tr>
<td>R/L Ulnar arteries</td>
<td>R/L Ulnar veins</td>
</tr>
<tr>
<td>Descending aorta</td>
<td>Inferior vena cava</td>
</tr>
<tr>
<td>Celiac trunk</td>
<td>Hepatic veins</td>
</tr>
<tr>
<td>Renal arteries</td>
<td>Renal veins</td>
</tr>
<tr>
<td>R/L Common iliac arteries</td>
<td>R/L Common iliac veins</td>
</tr>
<tr>
<td>R/L Femoral arteries</td>
<td>R/L Femoral veins</td>
</tr>
</tbody>
</table>

Dissection 4 (Optional as per instructor)
Identify major vessels on cat
Aorta
Pulmonary trunk
Superior and Inferior vena cava
Pulmonary veins (at least one is visible easily)
Exercise 32 Activity 6 in 9th edition, Activity 5 in 10th, 11th and 12th editions
Identify features of fetal circulation on diagrams
- Ductus arteriosus
- Foramen ovale
- Ductus venosus
- Umbilical vein
- Umbilical arteries

Exercise 33 Activity 1
Auscultate heart sounds and know events of each
- S1: AV valves close at beginning of ventricular systole
- S2: semilunar valves close at end of ventricular systole

Exercise 33 Activity 2
Palpate and know location of superficial pulse points
- Temporal artery
- Facial artery
- Common carotid artery
- Brachial artery
- Radial artery
- Femoral artery
- Popliteal artery
- Posterior tibial artery
- Dorsalis pedis artery

Exercise 33 Activity 5
Perform blood pressure measurements, know tools and meaning of numbers
- Sphygmomanometer and stethoscope
- Compare BP to normal (110/70 mmHg)
- Compute pulse pressure (systolic – diastolic)
  - < 30mmHg = aortic stenosis, pericarditis, tachycardia
  - > 40mmHg = hypertension

Exercise 33 Activity 7
Investigate the effects of posture, exercise, and cold on blood pressure and pulse
- Work in groups, document and compare results
- Calculate the index of physical fitness
- No lab reports

Optional Computer Activity:
PhysioEx Exercise 33B (On the PhysioEx CD-ROM packaged with the lab book)
- pages PEx-83 to PEx-95 (back of the book) in 9th edition
- pages PEx-87 to PEx-99 (back of the book) in 10th edition
- PhysioEx Exercise 5 pages PEx-75 to PEx-91 (back of the book) in 11th & 12th editions
For study:  
Review Sheet Exercise 32  
pages 485-490 in the 9th, 10th and 11th editions  
pages 489-494 in the 12th edition

Review Sheet Exercise 33A  
pages 505-510 in the 9th and 10th editions

Review Sheet Exercise 33  
pages 505-510 in the 11th edition  
pages 509-514 in the 12th edition

Answers in the Instructors Manual at the Eastern Campus Library on reserve

Histology photos are available at www2.sunysuffolk.edu/czuraa