

LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS

SPECIAL NOTE:

This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.

TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):

Please check with the LCC bookstore <http://www.labette.edu/bookstore> for the required texts for this class.

COURSE NUMBER: DMS 209

COURSE TITLE: INTRODUCTION TO OB/GYN AND VASCULAR SONOGRAPHY LAB

SEMESTER CREDIT HOURS: 2

DEPARTMENT: Diagnostic Medical Sonography

DIVISION: Health Science

PREREQUISITES: Acceptance into Sonography Program

COURSE DESCRIPTION:

This course is an introduction to vasculature, OB/GYN anatomy, and different Doppler waveforms within the specific structures. The student will learn different approaches and techniques to vascular and OB/GYN ultrasonography, to include an introduction to the normal anatomy of the first, second, and third trimester fetus. Doppler application will be applied to all areas covered in this course. This course will introduce the student to Doppler imaging of the abdomen, extremities, intracranial vessels, and Ankle brachial indexes, Plethysmography, and OB/GYN.

COURSE OUTCOMES AND COMPETENCIES:

Students who successfully complete this course will be able to:

1. Evaluate the normal anatomy and variants, duplex scanning, color flow imaging, and Sonographic appearance of the major abdominal vasculature.
 - Locate the arteries and veins of the abdomen including but not limited to: aorta, IVC, portal, hepatic, renal, splenic, and mesenteric.
 - Differentiate between portal and hepatic flow in the liver.
 - Evaluate laminar vs. turbulent flow characteristics and waveforms.
 - Analyze triphasic, biphasic, and monophasic waveforms in the artery.
 - Explain the relationship between high and low pressure, flow, and resistance in the arteries, veins of the chest and neck.
 - Survey the ICA and ECA size, location, waveforms, and high and low resistance.

- Compare the aorta artery to the inferior vena cava size, measurements, waveforms, and color filling.
- Describe the different modalities including MRI, computed tomography, angiography, nuclear medicine and MR flow meter used to evaluate vasculature in the abdomen, neck, head, and extremities.

2. Evaluate the gross anatomy, physiology, and fluid dynamics of the intracranial cerebrovascular system, plethysmography, segmental, ankle brachial index, upper and lower extremities.

- Distinguish the normal anatomy of the artery and veins of the upper extremities including the subclavian, brachial, radial, ulnar, and the palmar arch.
- Recognize the difference between positive and negative Doppler shifts.
- Label the normal anatomy of the lower extremity vasculature including but not limited to iliac, superficial femoral, popliteal, peroneal, and tibias.
- Perform the Allen test to evaluate patency of the wrist arteries and palmar arch.
- Differentiate different MSK structures being imaged.
- Perform compression, and augmentation on the vein being imaged.
- Manipulate the machine and the cuffs to perform the segmental test.
- Perform an ankle brachial index on patients with decreased pressures.
- Explain the difference between continuous wave and pulsed waves.
- Illustrate how to calculate the ankle pressure by the higher of the two brachial pressures.
- Identify the difference between true arterial claudication from nonvascular sources.
- Localize the level of obstruction.
- Distinguish between Photoplethysmography PPG, Strain gauge Plethysmography SPG, Oculopneumoplethysmography OPG-Gee, and displacement plethysmography.

3. Identify the normal anatomy of the Female Pelvis.

- Evaluate the normal anatomy of the uterus, ovaries, fallopian tubes, cervix, and endometrium.
- Distinguish the muscles/ligaments of the abdominopelvic wall/floor (MSK).
- Identify the cavities located in the pelvis.
- Apply Doppler applications to the female pelvic organs and major vessels of the pelvis.
- Differentiate the difference between transabdominal/transvaginal ultrasound images the anatomy of the female pelvis, including organs, MSK, vessels, and cavities.
- Compare/Contrast the different phases of the menstrual/ovarian cycle of the female organs.

4. Produce images and evaluate the first trimester OB.

- Identify the structures normally seen in a first trimester OB.
- Evaluate the first trimester OB using Doppler, but practicing safety considerations.
- Produce diagnostic images of the first trimester OB.
- Perform measurements on the first trimester OB.

5. Produce images, perform measurements and evaluate the second and third trimester OB.

- Identify the organs of the second and third trimester OB.
- Evaluate the second and third trimester OB using Doppler, but practicing safety considerations.
- Produce diagnostic images of the second and third trimester OB.
- Perform measurements on the second and third trimester OB.

6. Evaluate the placenta, the umbilical cord, and the amniotic fluid/membranes.

- Identify the placenta, umbilical cord, and the amniotic fluid/membranes.
- Evaluate the placenta.
- Perform an amniotic fluid volume.
- Survey the umbilical cord.