

## 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 250

**COURSE TITLE:** SONOGRAPHY REGISTRY REVIEW

**SEMESTER CREDIT HOURS:** 6

**DEPARTMENT:** Diagnostic Medical Sonography

**DIVISION:** Health Science

**PREREQUISITES:** DMS 205 Sonography Sectional Anatomy & Pathology I  
DMS 207 OB/GYN Sonography Procedures  
DMS 231 Vascular Sonography Procedures

**REVISION DATE:** 2/2014

### **COURSE DESCRIPTION:**

This course is broken down into three areas that will review all necessary subject matter of normal vs. diseased anatomy, functions, pathology, physiology, sectional abdominal anatomy, OB/GYN, vascular, and small parts to better prepare students to sit for registry exam.

### **COURSE OUTCOMES AND COMPETENCIES:**

**Students who successfully complete this course will be able to:**

1. Critique the normal anatomy and pathology of the liver, biliary system, kidneys, adrenal glands, spleen, aorta, and pancreas.
  - Label the anatomy of the liver using Couinaud's system, hepatic and portal vessels.
  - Distinguish between normal and abnormal laboratory values of the liver.
  - Demonstrate the gallbladder, and biliary system and ducts as they enter the liver.
  - Apply Doppler applications to the major vessels of the liver.
  - Recognize the normal renal parenchyma vs. abnormal tissue using Doppler to identify renal arts.
  - Differentiate between normal laboratory values compared to abnormal while identifying pathology and physiology.

2. Analyze the anatomy of the thyroid, scrotum, prostate, and utilize laboratory values in diagnosis.

- Compare the left side to the right side of the thyroid for consistency and identifying abnormal tissue vs. normal.
- Distinguish between normal laboratory values compared to abnormal in thyroid, and testicles.
- Identify any inflammation, infection, or tumors in the epididymis aided by Doppler
- Recognize Doppler flow in the testicle to help rule out testicular torsion.
- Recognize the normal tissues, labs, abnormal PSA compared to normal PSA of the prostate compared to abnormal tissue.
- Demonstrate invasive biopsies vs. noninvasive imaging.
- Utilize other modalities such as computed tomography, MRI, and radiology to help with diagnosis of prostate cancer.

3. Breakdown the normal and abnormal vascular anatomy of the upper and lower extremities.

- Distinguish between normal and abnormal anatomy and flow of the upper arterial and venous extremities; look for subclavian steal with retrograde flow.
- Know the normal triphasic waveforms in the upper extremities.
- Compress the vein and augment to help with diagnosis of disease.
- Identify the lower extremity vessels in the groin to the foot including iliac, femoral, popliteal, peroneal, and tibias.
- Locate the perforators vs. collaterals in the calves while evaluating the valve competency evaluate thrombus echogenicity, identify a Baker cyst.
- Distinguish between deep and superficial arteries and veins in both upper and lower extremities.
- Differentiate between clinical symptoms to help diagnose artery vs. venous disease and be able to label and locate ECA, ICA, and CCA in the carotid.

4. Compare physiologic testing (including volume pulse recording, pressure measurements, plethysmography, and stress testing), real-time ultrasound imaging, and Doppler evaluation (pulsed and continuous wave, color, and power flow) as related to the vasculature.

- Identify any type of narrowing from within the vessel or extrinsic pressure like a carotid body tumor.
- Locate the vertebral arteries and establish Ante grade or retrograde flow.
- Label the intracranial vessels including the circle of Willis and communicating arteries.
- Perform a trans cranial Doppler to evaluate the middle cerebral artery and direction of blood flow.
- Scan the lower extremity artery and vein to look for any diameter or area reduction and be able to perform an Allen's test.
- Utilize continuous wave Doppler if aliasing appears in the pulsed wave applications of high velocities.

- Perform the direct or indirect method to evaluate the renal arteries, Evaluate upper extremity vessels for narrowing, diameter, area reduction and calculate the reduction of disease, and look for primary and secondary Raynaud's.

5. Distinguish pathologies of the female pelvis.

- Analyze uterine, cervical, ovarian, adnexal and endometrial pathology.
- Identify and recognize the different pathologies of the female pelvis by sonography.
- Correctly document pathologies of the female pelvis.
- Correlate ultrasound of the pathologies with other imaging modalities.
- Identify surrounding muscles and ligaments
- Recognize the normal vs. abnormal Doppler flow in the pelvis.
- Locate the ovaries and make diagnosis.

6. Assess fetal complications, fetal growth assessment, and congenital anomalies.

- Distinguish the cranial abnormalities, macrosomia, serum markers, chorionic villus, amniocentesis seen in the fetus.
- Differentiate between normal bowel herniation, gastroschisis, and omphalocele.
- Identify the sonographic findings with cystic hygroma.
- Categorize the types of umbilical cord masses, hemorrhagic corpus luteum cyst, dermoid, fibroid, uterine contraction, and ectopic pregnancies that may be seen with ultrasound.
- List the other types of abnormal pregnancies.
- Discuss the normal range for fetal cardiac rhythm, IUGR, and distinguish the difference between incomplete abortion and blighted ovum, and explain measurements.
- List which growth parameters should be used to assess IUGR.