

## 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 205

**COURSE TITLE:** SONOGRAPHY SECTIONAL ANATOMY &  
ABDOMINAL PATHOLOGY I

**SEMESTER CREDIT HOURS:** 2

**DEPARTMENT:** Diagnostic Medical Sonography

**DIVISION:** Health Science

**PREREQUISITES:** Acceptance into the Sonography program

### **COURSE DESCRIPTION:**

This course will serve as an introduction to the study of diseases of the abdomen as related to the normal and abnormal appearance on a sonogram. This will include understanding of the physiology, pathology, and pathophysiology of the abdominal structures, including but not limited to thyroid, breast, prostate, scrotum, urinary tract, small parts, non-cardiac chest, and MSK imaging. Doppler applications will be applied to all structures covered in this course. The normal vs. abnormal laboratory values will be demonstrated.

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

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

1. Identify the normal anatomy of the Liver and biliary system.

- Recognize the anatomy of the liver using Couinaud's system.
- Identify the hepatic and portal vessels in the liver.
- Distinguish between normal and abnormal laboratory values of the liver.
- Label the biliary system and ducts as they enter the liver.
- Recognize an abnormal gallbladder compared to a normal functioning one.
- Apply Doppler applications to the major vessels of the liver.
- Distinguish pathology of the liver and biliary system from normal structures.

2. Demonstrate the normal anatomy of the kidneys and the adrenal glands.

- Recognize the normal renal parenchyma vs. abnormal tissue.
- Utilize Doppler waveforms to check for blood flow in kidneys and renal arteries.
- Distinguish between renal and adrenal structures.
- Differentiate between normal laboratory values compared to abnormal.
- Identify renal pathology and physiology.
- Identify adrenal pathology.
- Evaluate the urinary tract system including the bladder, kidneys, and ureters.

3. Break down the anatomy and pathology of the spleen, aorta, and pancreas

- Identify normal anatomy compared to diseases tissue of the spleen.
- Label the anatomy of the pancreas. Head, body, and tail
- Locate any abnormal structures within the pancreas.
- Distinguish between a normal compared to an aneurysmal aorta. Identify the layers of the artery.
- Apply Doppler applications to the spleen, aorta, and pancreas to evaluate blood flow.
- Utilize laboratory values of the spleen, aorta, and pancreas to help with diagnosis.

4. Label the anatomy of the thyroid, and scrotum and utilize laboratory values in diagnosis.

- Compare the left side to the right side of the thyroid for consistency.
- Use Doppler to confirm diagnosis in the thyroid.
- Differentiate abnormal thyroid tissue vs. normal tissue.
- Distinguish between normal laboratory values compared to abnormal in thyroid, and testicals.
- Identify any inflammation, infection, or tumors in the epididymis
- Recognize Doppler flow in the testicle to help rule out testicular torsion.

5. Describe the normal anatomy of the breast, and prostate.

- Label the anatomical landmarks of the breast tissue.
- Differentiate between normal, fibrous, and masses of the breast.
- Demonstrate the non-invasive scanning compared to invasive breast imaging.
- Recognize the normal tissues of the prostate compared to abnormal tissue.
- Distinguish normal prostate PSA compared to abnormal PSA.
- Demonstrate invasive biopsies vs. noninvasive imaging.
- Utilize other modalities such as computed tomography, MRI, and radiology to help with diagnosis of prostate cancer.

6. Recognize and identify the Sonographic appearances of normal anatomic structures including non-cardiac chest and musculoskeletal.

- Perform sonographic examination of anatomic structures including, shoulder, elbow, hip, ankle, and other structures that can have MSK disease.
- Identify acromioclavicular joint spacing/separation of the shoulder.
- Evaluate the annular recess of the elbow.
- Distinguish the echogenicity, texture, and presence of fluid in tendon, ligament, nerves, and muscular structures.
- Identify Normal anatomy and Sonographic appearance of prevertebral vessels, peritoneal cavity, retroperitoneum, gastrointestinal tract, non-cardiac chest.
- Recognize a normal appendix vs. an inflamed or infected appendix.