



**BAKER COLLEGE**  
**STUDENT LEARNING OUTCOMES**

**CAS2310 Clinical Affiliation II**

**6 Credit Hours**

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**Student Learning Outcomes and Enabling Objectives**

1. Utilize ultrasound equipment controls to optimize 2d images.
  - a. Demonstrate proper depth and gain.
  - b. Demonstrate still image and loop capture for adequate review.
  - c. Demonstrate optimal gray scale and focus.
2. Utilize Doppler and color flow Doppler (CFD) controls to optimize Doppler.
  - a. Demonstrate proper gain adjustment.
  - b. Demonstrate proper scale and filter adjustment.
  - c. Demonstrate proper baseline shift.
  - d. Demonstrate the use of various color maps.
  - e. Demonstrate proper color box size and positioning
3. Demonstrate accurate measurements on 2D and m-mode images.
  - a. Perform LA volume measurements.
  - b. Perform Simpsons measurements.
  - c. Perform TAPSE.
  - d. Perform 2d Plax measurements.
4. Perform accurate Doppler measurements and calculations using PW and CW doppler.
  - a. Demonstrate measurements for calculation of MV area.
  - b. Demonstrate measurements for calculation of AV area.
5. Demonstrate proper use of non-imaging CW doppler probe.
  - a. Demonstrate AV and MV Apical valve flows.
  - b. Demonstrate ascending and descending Aorta flow from SSN.
  - c. Demonstrate AV flow from right sternal border.
6. Modify normal echocardiogram to evaluate specific pathologies.
  - a. Demonstrate Systolic dysfunction evaluation.
  - b. Demonstrate Diastolic dysfunction evaluation.
  - c. Demonstrate Aortic valve or aortic root disease evaluation.
  - d. Demonstrate Mitral Valve disease evaluation.
  - e. Demonstrate Right heart pathology evaluation.
  - f. Demonstrate Cardiomyopathy evaluation.

- g. Demonstrate Pericardial pathology evaluation.
  - h. Demonstrate Prosthetic valve evaluation.
  - i. Demonstrate Coronary artery disease evaluation.
7. Demonstrate a complete normal echocardiogram.
- a. Demonstrate quality captures of all standard views and measurements of an echocardiogram protocol.

## **Big Ideas and Essential Questions**

### **Big Ideas**

- 2D optimization
- 2D measurements
- M-mode measurements
- Color doppler optimization
- Doppler optimization
- Doppler measurements
- Complete Normal echocardiogram
- Disease based echocardiograms

### **Essential Questions**

1. How is the complete normal echocardiogram performed?
2. How to perform a disease specific protocol?
3. How to utilize ultrasound machine controls to optimize 2D, M-mode, Doppler, and Color flow?

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These SLOs are not approved for experiential credit.

**Effective: Spring 2022**