



LINCOLN UNIVERSITY

DI 185 / UT 185 – Advanced Echo Imaging (Lab)

Spring 2012 Course Syllabus

DATES: 01/17/2012 – 05/26/2012

COURSE TITLE: Advanced Echo Imaging (Lab)

COURSE CODE: DI 185 / UT 185

CREDIT HOURS: 4 units (120 lab hours)

TIME: Tuesdays & Thursdays, 5:30 pm – 9:15 pm

PRE-REQUISITE: DI / UT 145

INSTRUCTOR: Irina Davidovich, RCS, RDCS

CONTACT INFORMATION: davidovich.irina@gmail.com

OFFICE HOURS: By appointment only

COURSE DESCRIPTION:

Students will learn advanced echocardiographic procedures. Topics include stress echo, related diagnostic imaging, and related noninvasive cardiac testing. (4 units) *Prerequisite: DI 145 / UT 145*

You will learn scanning protocols of the ultrasound examination of the heart. This Lab class was designed to give you hands on experience. You will learn the proper way to scan, obtain 2D echo images, m-mode, color Doppler and stress echo. Learning a new skill is always challenging, it takes a lot of dedication, practice and patience. It is important to work together as a group to create a positive, productive and safe learning environment for all. Here are a few class rules to help us achieve this goal:

- Follow all Lab rules.
- Respect patients privacy inside and outside of the lab
- NO cell phones and laptops
- Use gowns to protect the patients privacy
- Please no side conversations during class time
- Everyone will get a chance to scan and be scanned

COURSE OBJECTIVES:

Upon satisfactory completion of this course, the student will be able to do the following:

- Complete a full echo protocol in less than one hour.
- Find views: PLAX, PSAX, Apical 4, Apical 2, Apical 3 and Apical 5 and subcostal.
- Select the proper transducer for the examination to be performed.
- Utilize correct anatomical landmarks and scanning references when performing and labeling a study.
- Demonstrate the area of interest by utilizing correct scanning planes and paths.
- Adjust gain controls for optimum display.
- Demonstrate professionalism and ethical behavior in a clinical setting.
- Perform the examination using the correct scan planes and scan paths. Identify pathological conditions commonly demonstrated on this type of study
- Calculate Atrium Volume
- Calculate 2D and M-mode measurements
- Calculate Ejection Fraction
- Know how to properly evaluate regurgitation of all severities

- Identify common cardiac arrhythmias
- Set up patient for Stress Echo
- Performer Stress Echo with the proper view
- Identify Wall Motion Abnormalities
- Perform hybrid views such as PSAX from Subcostal to gain additional information in TDS cases
- Perform right hang scanning

IN-CLASS PRESENTATION:

Each student will be asked to research a topic related to cardiac disease such as CM, pericardial effusion, stenosis, etc. The topic does need to be approved by the instructor. Each student will be asked to turn in an echo report complete with Topic definition, etiology, symptoms, picture, physical examination, risk factors, complications, echo findings and important measurements, as well as any other relative information. An example of this echo report will be provided to the students to help them with the report. Each student will be asked to introduce and show their report to the class. Grading will be determined by the completion and the information gathered by the student about the topic they have chosen.

INSTRUCTIONAL METHODS:

Instructional methods will include but are not limited to in-class hands on learning activities. Classroom activities are collaborative- students may and should help each other. The instructor will be available to help students with all tutorials and other assignments.

120 hours lab = 4 units

Evaluation: Lab work will be supervised and evaluated by instructor.

Grading Scale:

| | |
|----------------------|-----|
| Attendance | 10% |
| Presentation | 20% |
| Scanning Performance | 30% |
| Final Practice Exam | 40% |

| | |
|---------------|---|
| 100-90% | A |
| 89-80% | B |
| 79-70% | C |
| 69-60% | D |
| 59% and below | F |

To successfully complete this course, the student must pass the lab and final practice exam portion with a 70% or better.

RESOURCE MATERIALS:

Recommended: Echocardiography Review Guide

By: Catherine M. Otto and Rebecca G. Schwaegler

SCHEDULE: SPRING 2012

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Course Outline:

Week 1: Review all pictures and measurements included in a full protocol

Week 2: Emphasize on proper scanning technique for TDS cases

Week 3: Introduction and practice of right hand scanning

Week 4: Emphasize the importance of TGC and auto correct and using machine functions to improve the quality of the image

Week 5: Working on completing a Full protocol

Week 6: Introduction to stress echo

Week 7: Practice stress echo

Week 8: Practice stress echo

Week 9: Practice stress echo

Week 10: Practice stress echo

Week 11: Calculating Ejection Fraction

Week 12: Understanding the difference between DCM and HCM, importance of accurate measurements for valvular disease

Week 13: Working individually with each student on what they need help on most

Week 14: Final Review

Week 15: Final

The syllabus updated: 01/17/2012

Note: Instructor may change this syllabus and course schedule at any time according to my judgment as to what is best for the class. Any changes will be declared ahead of time in class.