# LINCOLN UNIVERSITY
## DI / UT 135 – Echo Imaging
## Spring 2012 Course Syllabus

**DATES: 01/17/2012 – 05/07/2012**
**COURSE TITLE: Echo Imaging**
**COURSE CODE: DI 135 / UT 135**
**CREDIT HOURS: 45 hours of lectures (3 units)**
**30 hours of laboratories (1 unit)**
**TIME: Monday 6:30 pm – 9:15 pm**
**PRE-REQUISITE: DI 115 / UT 115**
**INSTRUCTOR: Olga Davidovich, MD, RDCS, RVT, RDMS**
**CONTACT INFORMATION: (415) 794- 4336**
**OFFICE HOURS: By appointment only**

**COURSE DESCRIPTION:**
Review of imaging methods and technology based on 2-dimensional echocardiography. Applications to recording and interpretation of echo imaging for detection of heart abnormalities are emphasized. (4 units)

**COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES:**

Upon satisfactory completion of this course, the students will be able to:

- Utilizing echocardiography, identify and describe the anatomical structures of the heart and great vessels.
- Describe the physiological function of the chambers of the heart, valves and supporting structures and the great vessels.
- List normal intercardiac pressures and oxygen saturation values for the chambers of the heart and great vessels.
- Recognize normal and abnormal hemodynamic pressure curves from the atria, ventricles and great vessels.
- Record factors of pertinent medical history as related to non-invasive diagnostic testing.
- Conduct a limited cardiac physical examination and recognize certain cardiovascular system.
- Recognize systolic and diastolic murmurs and relate these murmurs to specific pathological conditions of the heart.
- Utilize the echocardiograms to recognize various basic pathological conditions, such as: mitral stenosis, mitral prolapsed, pericardial effusion, aortic stenosis, etc.
- Recognize the cardiac and great vessel structures in the M-mode echocardiography.

**INSTRUCTIONAL METHODS:**

Instructional methods will include instructor lecture and 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.
45 hours lecture = 3 unit
30 hours lab = 1 unit

**GRADING:**

1. Homework and Quizzes – Written homework assignments will be given periodically. Additionally, unannounced quizzes will be given during class time.
2. Final Examination

Grading Scale:

Class Attendance 20%
Quizzes 20%
Lab 20%
Homework 10%
Final Exam 30%
Total: 100%

90 -- 100 A
80 -- 89 B
70 -- 79 C
60 -- 69 D
Below 60 F

To successfully complete this course, the student must pass the lectures, quizzes, homework and final exam portions with a 70% or better.

**RESOURCE MATERIALS:**

- The Echocardiographer's Pocket Reference Third Edition
  By: Terry Reynolds BS, RDCS
- Appleton & Lange Review for the: ULTRASONOGRAPHY EXAMINATION 3rd edition
  By: Carol A. Krebs, Charles S. Odwin, and Arthur C. Fleischer
- Cardiovascular Principles A Registry Exam Preparation Guide
  By: Terry Reynolds, BS, RDCS
- Echocardiography Review Guide
  By: Otto, Schwaegler and Freeman

Syllabus updated: 1/30/2012

**DI 135 / UT 135 – ECHO IMAGING**

**SPRING 2012 COURSE OUTLINE:**

Week 1: Anatomy of the heart/ physiology and hemodynamics with diseases

Week 2: Valvular heart diseases: MS, MVR, MVP, Tricuspid regurgitation, TS, TV prolapse

Week 3: Aortic Valve: Bicuspid AV, AS, AI, Degenerative rheumatic diseases

Week 4: Pulmonic valve regurgitation, PS

Week 5: Infective Endocarditis

Week 6: Bioprosthetic valves/ Mechanical valves

Week 7: Review

Week 8: Mid-term

Week 9: Pericardial effusion/ Pericarditis, Cardiac Tamponade

Week 10: Pulmonary HTN, Cardiac tumors

Week 11: Dilated Cardiomyopathy, Hypertrophic CM

Week 12: Ischemic Heart Disease

Week 13: Myocardial Infarction and Complications

Week 14: Review

Week 15: Final