COURSE SYLLABUS

PROFESSOR: Davidovich, Olga, MD, RDCS, RVT, RDMS
COURSE TITLE: Echo Imaging
COURSE CODE: DI 135
CREDIT HOURS: 45 lectures (3 credits);
30 laboratories (1credit).
TEACHING HOURS: M & W 6:00 pm – 8:45 pm lecture
T 6:00 pm – 9:45 pm lab

PRE-REQUISITE: DI 115

COURSE DESCRIPTION

Review of imaging methods and technology based on 2-dimensional echography. Applications to recording and interpretation of echocardiographic imaging for detection of heart abnormalities are emphasized.

COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES

Upon satisfactory completion of this course, the student 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 pressure and oxygen tension 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 disorders.
- Properly utilize a stethoscope in recognition/evaluation of normal heart sounds. Relate the heart sounds to hemodynamic events occurring within the cardiovascular system.
- Recognize systolic and diastolic murmurs and relate these murmurs to specific pathological conditions of the heart.
- Utilize the echocardiograms to measure valve leaflet excursion/velocity, wall thickness and chamber dimension.
- Utilize the echocardiogram to recognize various basic pathological conditions, such as: mitral stenosis, mitral prolapse, pericardial effusion, aortic stenosis, etc.
- Recognize the cardiac and great vessel structures in the various 2-D echo views.
- 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 = 2 units

30 hours lab = 1 unit

EVALUATION

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 Participation	20%
Quizzes	20%
Lab	20%
Homework	10%
Final Exam	30%
	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 Echo Manual
by Jae K. Oh, J. B. Seward, A. Jamil Tajik
The Echocardiographer's Pocket Reference
Third Edition
By Terry Reynolds BS, RDCS

DI 135 Echo Imaging

Course outline:

Week 1	Anatomy of the Heart, Physiology and Hemodynamics	Lecture/lab
Week 2	Valvular Heart Disease	lecture/lab
Week 3	Pericardial Disease; Systemic and Pulmonary Hypertensive heart Disease	lecture/lab
Week 4	Cardiomyopathies; Review; Midterm	lecture/lab Class discussions Exam
Week 5	Cardiac Tumor; Ventricular Function	lecture/lab
Week 6	Congenital Heart Disease in the Adults; Disease of Aorta	lecture/lab
Week 7	Stress Echo; Review; Final	lecture/lab Class discussions Exam