Lincoln University
Spring 2011

COURSE SYLLABUS

PROFESSOR: Davidovich, Olga, MD, RDCS, RVT, RDMS
COURSE TITLE: INTRODUCTION TO ECHOCARDIOGRAPHY
COURSE CODE: DI/UT 115
CREDIT HOURS: 45 lecture hours (3 units), 30 lab hours (1 unit)
TEACHING HOURS: Tuesday 6:30 pm – 9:15 pm (lecture)
PRE-REQUISITE: DI/UT 30

COURSE DESCRIPTION

This introductory course focuses on normal anatomy, scan techniques, cardiac measurement, and new dynamics. Focus on anatomy and physiology of the heart, main principles of scan techniques, cardiac measurements, introduction of standard transducer locations, basic 2D views, identifying the ventricular walls seen in each 2D View, learning M-Mode appearance of LV and other structures of the heart, Basic function of transducer, Doppler principles including Pulse wave Doppler, Continues Wave and Color flow Doppler. (Total 4 units)

COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES

Upon satisfactory completion of this course, the students will be able to:
- Describe the job functions of a Cardiovascular Technologist
- Define common terminology and abbreviations used by Cardiovascular Technologist
- Identify anatomic structures of the cardiovascular system
- Describe the function of anatomic structures of the heart
- Name in sequence the blood vessels of the human body from the aorta through body tissues and back to the right heart
- List the heart chambers and valves through which blood passes from the time it enters the vena cava, through its path through the lungs and back through the left heart to the aorta
- Analyze a standard normal ECG in relation to cardiac electrical conductance
- Demonstrate a basic knowledge of scan techniques, 2D images, M-Mode
- Demonstrate a basic understanding of Doppler principles
- Identify the ventricular walls seen in each 2D view

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

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 115 – INTRODUCTION TO ECHOCARDIOGRAPHY

COURSE OUTLINE:
WEEK 1: ANATOMY OF THE HEART LECTURE/LAB
WEEK 2: BASIC EMBRIOLOGY LECTURE/LAB
WEEK 3: CARDIAC PHYSIOLOGY LECTURE/LAB
WEEK 4: CARDIAC EVALUATION METHODS LECTURE/LAB
WEEK 5: CONGENITAL DEFECTS LECTURE/LAB
WEEK 6: PRINCIPLES OF CARDIAC HEMODYNAMICS LECTURE/LAB
WEEK 7: REVIEW LECTURE/LAB
WEEK 8: MIDTERM MIDTERM/LAB
WEEK 9: PULSE ECHO INSTRUMENTS LECTURE/LAB
WEEK 10: DOPPLER LECTURE/LAB

WEEK 11: PRINCIPLES OF PULSE ECHO IMAGING LECTURE/ SELF-LAB
WEEK 12: SONOGPAPHY OF THE BLOOD VESSELS LECTURE/ SELF-LAB
WEEK 13: MISCELLANEOUS LECTURE/ SELF-LAB
WEEK 14: REVIEW LECTURE/ SELF-LAB
WEEK 15: FINAL

Revised: 2/2/2011