

# **LINCOLN UNIVERSITY**

**COURSE NUMBER:** DI 110

**COURSE TITLE:** ULTRASOUND PRINCIPLES AND PROTOCOLS

**COURSE CREDITS:** 2 lecture units + 2 lab units

## **BASIC INFORMATION:**

*Professor's name:* Dr. Khatia Mania

*Office Hours:* Mon-Fri 9:00AM-5:00PM

*Contact Telephone:* (510) 628-8032

*E-mail:* [mania@lincolnuca.edu](mailto:mania@lincolnuca.edu)

*Meeting times:* Monday (Lecture) and Tuesday (Lab), 3:30-6:15pm

*Room numbers:* 404 (Lecture), 208 (Lab)

## **TEXTBOOKS:**

Ultrasound Scanning: Principles & Protocols  
by Betty Bates Tempkin

Sonography Introduction to Normal Structure and Function  
by Reva Arnez Curry, Betty Bates Tempkin

Appleton & Lange Review for the Ultrasonography Examination (Appleton & Lange Review Book Series) by [Carol A. Krebs](#), [Charles S. Odwin](#), [Arthur C. Fleischer](#).

**COURSE DESCRIPTION:** This course includes introduction to abdomen and small parts, OBGYN and vascular scanning, basic study of the structure and function of the human body. Upon completion, students should be able to demonstrate basic understanding of the fundamental principles of scanning of different organs.

**PREREQUISITE:** [DI 30](#)

## **COURSE OBJECTIVES:**

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

- Assist patients to and from the exam area
- Explain the methods for identifying the patient
- Explain the examination and instruct the patient properly
- Describe a scanning survey and explain the importance of a survey prior to taking images
- Explain the selection of the proper transducer for the exam
- Explain the elements of film labeling
- Describe optimal techniques related to field size, power, gain, and contrast for interpretable images
- Demonstrate knowledge of presenting films in a logical sequence, justifying
- Define plane (planar) anatomy
- Describe the most basic protocol for scanning and labeling pathology

Upon completion of this course, students should submit quizzes, homework projects and presentations.

## **INSTRUCTIONAL METHODS:**

Instructional methods will include lectures, classroom activities, presentations and video material.

## **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	30%
Homework	20%
Final exam	30%
	<hr/>
	100%

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

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

### **SCHEDULE OF TOPICS:**

**01/12/09** - Abdominal scanning protocols.

General Principles. Scanning planes and scanning methods. Scanning protocol of pathology.

**01/26/09** - Abdominal aorta; Inferior vena cava;

Abdominal scanning protocols: the Liver; the Gallbladder and Billiary Tract

**02/02/09** - Abdominal scanning protocols: the pancreas; spleen; kidneys and adrenal glands.

**02/09/09** – Brest Sonography.

**02/23/09** – Small parts scanning protocols:

The Thyroid and Parathyroid Glands. The lymph nodes.

**03/02/09** – Male pelvic scanning protocols: the scrotum; prostate gland and surrounding structures.

**03/09/09** – Female pelvis scanning protocol.

**03/16/09** – Pelvic Sonography. Obstetrical Sonography: first, second trimester.

**03/ 23/09** – Pelvic Sonography. Obstetrical Sonography: third trimester.

**03/30/09** – Review and final examination.

### **DUE DATE:**

Due date for the quizzes, homework and presentations is 03/30/09