



LINCOLN UNIVERSITY

## SYLLABUS

**Semester:** Spring 2011

**Course Title:** Ultrasound Principles and Protocols

**Instructor:** Dr. Jahan Orazova, MD, PhD, RVT, RDMS, RPVI

**Course:** DI 110

**Units:** 3 units' lecture and 1 unit lab

**Class Hours:** Wednesdays, 9:00-11:45am (Lecture); Mondays, 9:00-11:45am (Lab)

**Contact:** 510-628-8032; 510-628-8035; Email. jorazova@lincolnuca.edu

**Office Hours:** Tuesdays, 12:30-01:30pm, room 408

### **REQUIRED TEXTBOOK:**

1. Hagen-Ansert: Textbook of Diagnostic Ultrasonography, 6th Edition, Vol#1  
(ISBN 0323042023, 9780323042024)

**Additional recommended text books and instructional materials will be given during classes**

### **COURSE DESCRIPTION:**

This course includes a review of and an introduction to study of the abdomen and small parts, obstetrics and gynecology, vascular and echo. (4 units)

**PREREQUISITES:** SCI 31- Human Biology; DI 20 - Medical Terminology; DI 30 - Anatomy & Physiology; DI 120 – Physical Principles of Ultrasound

### **LEARNING OBJECTIVES:**

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

- Assist patients to and from the exam area;
- Properly explain various examination procedures and properly instruct a patient;
- 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; justify the ultrasound images;
- Define plane (planar) anatomy (transverse, sagittal, lateral and multiplane positions);
- Describe the most basic protocol for scanning and labeling pathology;
- Demonstrate basic knowledge of abdominal and small parts organs, OB/GYN and vascular ultrasound hands-on laboratory protocols.

## **METHODOLOGY:**

The previously described topics will be presented through the following:

- Assigned text readings and lecture outlines (handouts);
- Demonstration of lectures by using the Power Point;
- Recommended study guide activities;
- Internet resources;
- Group discussions and ultrasound case analyses;
- Quizzes & examinations;
- Working with ultrasound machines;
- Hands-on ultrasound laboratory trainings (protocols-handouts);
- Ultrasound laboratory live & video demonstrations;
- Students' Vascular Imaging Power Point presentations;
- Students' Ultrasound Hands-on self study trainings.

## **REQUIREMENTS:**

- This is a lecture-lab course in which lecture topics are presented by the Instructor (teacher) and the ultrasound hands-on lab practice is explained and demonstrated by the Lab Instructor (explaining and demonstrations by lab instructor);
- The student is expected to be prepared in advance before the class sessions;
- Being prepared includes the following: having read text materials (e.g., textbook readings, and lecture outlines) assigned for that day's activities and bringing required work materials (e.g., textbook, handouts, writing supplies, etc.) to the session;
- Home works will include reading the topic (s) one week ahead of time;
- The student is expected to attend and participate in all course lectures and activities, and complete all quizzes, examinations and course assignments on time. **Therefore an attendance and being on time are crucial** to your final grade;
- The student should understand that "introductory" does not mean "easy";
- The student must budget time efficiently and be realistic about all personal and professional commitments that consume time.

### **❖ Academic Honesty**

The University maintains a strict policy concerning academic dishonesty, which includes cheating, plagiarism, giving assistance on an examination or paper when expressly forbidden by the instructor, and any other practices which demonstrate a lack of academic integrity. It is the responsibility of the student to know and to adhere to principles of academic honesty. A student found guilty of academic dishonesty will be subject to academic sanctions ranging from failure on the assignment to failure in the course too.

### **❖ Ultrasound hands-on laboratory training**

Ultrasound hands-on laboratory will involve primarily students' demonstration of the knowledge presented during lectures. Practical experience will gain under the guidance of a supervisor-teacher. The syllabus set out includes a competency assessment sheet for training. This should be completed the course of training, as it will help to determine in which area(s) the student can practice independently. Students are expected to arrive to class on time, and stay through the end of Ultrasound laboratory class.

## **ATTENDANCE AND PARTICIPATION:**

- Students who are tardy, who arrive after roll is taken or leave before the end of class will receive only half-credit for attendance;

- **Student not allowed being late more than 15 min!**
- If you are late or absent, a valid excuse such as illness, family emergency, unforeseen heavy traffic or natural disaster is expected. Oversleeping, and working on films are not considered valid excuses;
- No requirements to make up any work missed as a result of an absence. However, it is your responsibility to obtain class notes; you may have missed, from other class members.

### **IN-CLASS PRESENTATION (PROJECT):**

Each student prepares a power-point presentation on ultrasound vascular diagnostic topic of his/her choice. The presentation should be approximately 10 minutes long, 5 minutes discussion. The topics and format for the presentation will be discussed in class. **The presentations will take place no later than 10/29/2010.** A final draft of the presentation must be submitted for review one week prior to the presentation. An article related to the presentation for students to review must also be submitted one week prior to the presentation. For the grading of students will be to prepare 3 questions from the topic submitted for the student presentation. The questions will be due on the day of each of the presentations and will be used to help guide class discussions of the presentation topics.

### **Evaluation Criteria for Presentation:**

- Clinical statement
- Background information
- Slide content
- Slide design
- Resolution of the problem
- Oral presentation

### **TESTING:**

#### ❖ **Quizzes:**

The student will take **10 tests 10-15 questions each**. These quizzes will address the detailed content and major concepts presented in the lectures, lecture outlines, text readings, and study guide activities. If the student takes more than ten quizzes, only the best ten quiz scores will be used in calculating the student's total points. Each quiz will be timed, **1 minute for every question to complete**. No make-up quizzes for missed quizzes will be administered (the student will receive no score for missed quizzes).

#### ❖ **Midterm & Final examination**

- **The student will take written midterm of 50 questions and final examination of 100 questions;**
- The written examinations are proctored and will be closed-book exams;
- Students will not be allowed to refer to texts, notes, nor other materials while taking the exams;
- The Scranton machine will be used in grading multiple-choice tests;
- **Each student will be allowed to re-take one exam only;**
- The student must take the exam during the scheduled time period;
- A student missing an exam because of an illness or legitimate emergency may take a make-up exam as soon as possible after the student returns from the illness and as determined by the instructor. In such a circumstance, the student should make every reasonable attempt to contact the instructor before the exam period is over (or as soon as possible);

- While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different.

❖ **Ultrasound Hands-on Laboratory Examination:**

- Final ultrasound hands-on examination student have to demonstrate understanding of information presented primarily during lectures and hands-on laboratory trainings;
- Student will schedule time and date 2-3 week ahead to Ultrasound hands-on laboratory examination;
- Student(s) need to be at the Ultrasound Lab – ready to start scanning at the exact time you scheduled your exam for (It is recommended that you arrive about 15 minutes prior to your scheduled exam time);
- If a student is late for his/ her scheduled exam time – Your time CANNOT be changed and you will NOT get a full hour! If you are late, you will only have the remaining time left in your hour;
- On exam days, you may come to class, but it is not mandatory until your scheduled exam time;
- **Only one time RETESTS will be given students with** a valid excuse such as illness, family emergency, unforeseen heavy traffic or natural disaster.

**GRADING:**

Lecture	Attendance	10%
	Midterm	20%
	Final Exam	20%
	Tests/Quizzes	10%
laboratory	Attendance	10%
	Presentation	10%
	Performance of ultrasound scanning protocols	20%
Total		100%

100-93	A
92-89	A-
88-85	B+
84-81	B
80-77	B-
76-73	C+

72-69	C
68-65	C-
64-61	D+
60-50	D
49≤	F

**CLASSROOM PROTOCOL:**

- All students are expected to display professionalism, in preparation for hospital work. That means arriving on time, remaining quiet when others are speaking, and paying attention to whoever has the floor in the classroom;
- Students are expected to attend and be prepared for all regularly scheduled classes. If a student knows in advance that he or she will need to leave early, he or she should notify the instructor before the class period begins;
- Students are expected to treat faculty and fellow students with respect. For example, students must not disrupt class by leaving and reentering during class, must not distract class by making noise, and must be attentive to comments being made by the instructor and by peers;
- Never speak while the teacher is speaking;
- Always raise your hand to speak or to leave your seat, and wait for a response before speaking;

- **Disruptive behavior will not be tolerated**, including touching of other classmates or their belongings;
- Students engaging in disruptive behavior in class will be asked to leave and may be subject to other penalties if the behavior continues;
- No eating, sleeping or personal grooming is permitted during lecture and ultrasound laboratory classes;
- Drinks only in closed container;
- Please turn off your cell phones, and refrain from activities that disrupt the class (such as eating and walking in and out of the room while class is in session);
- If you use a computer in class, please use it only to take notes, to access course materials from the course webpage, or to locate information relevant to the class discussion. Do not use your computer to surf the web, check emails, or send/receive text messages, as these activities are distracting to those around you (and decrease your chances of getting the most out of your time in class);
- To encourage the free flow of conversation, no part of any class may be recorded on audio or video media without the permission of the instructor. You may record notes by hand or by typing into a mobile computer;
- The presence of guests to listen to any part of a class requires the consent of the teacher.

**SCHEDULE:**

<b>DI 110 Ultrasound Principles and Protocols</b>			
<b>Weeks#</b>	<b>Dates</b>	<b>Lecture#/Topics</b>	<b>Test#</b>
Week 1	1/19/2011	General Principles. Scanning planes & scanning methods.	Test#1
Week 2	1/26/2011	Ultrasound of the Liver	Test#2
Week 3	2/2/2011	Ultrasound of the Gallbladder & Biliary Tract	Test#3
Week 4	2/9/2011	Ultrasound of the Pancreas & Spleen	Test#4
Week 5	2/16/2011	Ultrasound the Kidneys & Adrenal Gland	Test#5
Week 6	2/23/2011	Breast Sonography	Test#6
Week 7	3/2/2011	Ultrasound of the Thyroid & Parathyroid Glands	Test#7
Week 8	3/9/2011	Ultrasound of the Scrotum & Prostate Gland	Test#8
<b>Week 9</b>	<b>3/16/2011</b>	<b>HOLIDAY</b>	
Week 10	3/23/2011	<b>MIDTERM/</b> Ultrasound blood vessels. Abdominal arteries & veins	
Week 11	3/30/2011	Pelvic Sonography: GY protocol	Test#9
Week 12	4/6/2011	Obstetrics Sonography: 1st trimester protocol	Test#10
Week 13	4/13/2011	Obstetrics Sonography: 2nd & 3rd trimester protocol	Test#11
Week 14	4/20/2011	Review	Test#12
<b>Week 15</b>	<b>4/27/2011</b>	<b>FINAL EXAM – WRITTEN</b>	<b>Test#13</b>
Week 16	5/4/2011	<b>MAKE UPS</b>	Test#14

The syllabus updated 01/03/2011

**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