



LINCOLN UNIVERSITY

DI 170 – Abdomen and Small Parts Scanning (Lab)

Course Syllabus

Academic Term: Spring 2015

Course Number: DI 170

Lab Instructor: Richard Yee, RDMS (AB, OB/GYN)

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Credit: 3 Units of Lab = 90 Lab Hours

Class Hours: M & W 9:00 AM – 12:35 PM

COURSE DESCRIPTION:

Scanning protocols and practice for ultrasound examination of abdomen and small parts.
(3 units) *Prerequisite: DI 160*

LEARNING OBJECTIVES:

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

- Assist patients to and from the exam area
- Explain the examination and instruct the patient properly
- Describe a scanning survey and explain its importance 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 image interpretation
- Present images in a logical sequence
- Describe the anatomy, physiology, normal variations, and pathology of the peritoneum, abdominal wall, retroperitoneum, peripheral and abdominal lymph nodes, thyroid and parathyroid glands, breast, scrotum, prostate, GI tract with appendix and identify the normal and abnormal sonographic appearances of these structures
- Demonstrate knowledge of abdominal pathological findings
- Explain the significance of clinical tests relevant to pathology within the abdomen
- Explain the sonographic findings and differential diagnosis of abdomen pathology

INSTRUCTIONAL METHODS:

Instructional methods include lectures and in-class hands-on scanning. 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. The previously described topics will be presented through the following activities:

- Assigned text reading
- Lecture materials
- Recommended study guide activities
- Internet resources

- Group discussions and ultrasound case analysis
- Quizzes & examinations
- Practice using ultrasound machines
- Hands-on ultrasound laboratory protocols
- Ultrasound laboratory live & video demonstrations
- Students' Ultrasound Hands-on self-study
- Live demonstration ultrasound imaging of organs and vessels

REQUIREMENTS:

The student is expected to be prepared in advance of the class sessions.

Preparation includes the following: having read text materials (e.g., reading textbooks and lecture outlines) assigned for that day's activities and bringing required work materials (e.g., textbook, handouts, writing supplies, etc.) to the session.

Homework includes reading topics prior to the class.

The student is expected to attend and participate in all the lab activities, and complete all quizzes, examinations and course assignments on time. Therefore attendance and being on time are crucial for final grade. 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 assignment failure to course failure.

ATTENDANCE AND PARTICIPATION:

To successfully complete this course, the student must pass the quizzes, homework and final exam portions with a 70% or better. Students should attend all the class (lab) meetings. However, considering possible urgent situations, students may be absent from maximum four class meetings with prior notice to the instructor. Three late arrivals will lower your grade. The term grade is based on attendance, class activity, projects, midterm and/or sum of quizzes, final examination, and lab. Individual projects will be assigned at the beginning of the semester. Homework and project are due by the last meeting before the final examination. No project or homework will be accepted after the due date.

If a student misses a class without a valid reason, no make-up for quizzes and presentations is allowed. With a valid document, a student is allowed to take missed tests within one week. There is no make-up/retest for failed midterm or final exam. Dictionaries can be used during the class time. No electronic devices during the test time. Exams must be taken 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. During the written exam, any student observed in a situation that

could be considered suspicious (e.g., an open book within his/her field of vision, looking around or checking a cell phone or other wireless device, etc.) If cheating is observed, student will be warned. Once warned, any applicant found cheating on the written exam will be failed for the exam and prohibited from retaking the written exam without permission from the dean. Students cannot leave the room during the test/exam. As soon as a student leaves, his/her exam is considered finished. Lecture is not a substitute for textbooks. Students should read textbooks and use other sources to be prepared for the tests. Lecture is to guide the students to prepare for the course subjects.

TESTING:

Ultrasound Hands-on Laboratory Examination:

Final ultrasound hands-on examination – students have to demonstrate understanding of information presented during the lectures and hands-on laboratory training.

Students have to perform different ultrasound protocols and demonstrate scanning technique and images in B-mode, M-mode, Color and Spectral Doppler.

Students are required to schedule the time and date 2-3 weeks ahead of the ultrasound hands-on laboratory examination.

Students need to be at the Ultrasound Lab, ready to start scanning at the exact scheduled time. (It is recommended that the student arrive about 15 minutes prior to the scheduled exam time.)

If a student is late for the scheduled exam time, the time CANNOT be changed and the student will NOT get a full hour! The student will only have the remaining time left in the hour. Only one time test will be given to students with a valid excuse such as illness, family emergency, unforeseen heavy traffic or natural disaster.

RECOMMENDED SELF-STUDY:

- Review anatomy location, patient’s position, images techniques.
- Additional sources: Sonoworld.com, Ultrasoundpedia.com, Sonoaccess App.

STUDY MATERIALS / RESOURCES:

Textbook of Diagnostic Sonography: Vol. 1, Sandra L. Hagen-Ansert, 7th Edition (2011). ISBN-10: **0323073018**, ISBN-13: **978-0323073011**

GRADING: %

Laboratory	Performance of scanning protocols	30%
	Midterm	30%
	Final Exam	30%
	Lab Attendance	10%
Total		100%

% Achieved	Grades
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

SCHEDULE: DI 170 (Lab)

Week #	Dates	Topics:
Week 1	01/21	Protocols, Ergonomics
Week 2	01/26-28	Pancreas
Week 3	02/02-04	Liver 1
Week 4	02/09-11	Liver 2
Week 5	02/18	Liver 3
Week 6	02/23-25	Abdominal Aorta & Inferior Vena Cava
Week 7	03/02-04	Portal Venous System
Week 8	03/09-11	GB & Biliary System
Week 9	03/16	Kidneys, Adrenal Gland
Week 10	03/23-25	Spleen
Week 11	03/30-04/01	Ureter & Bladder
Week 12	04/06-08	Retroperitoneal / Appendix
Week 13	04/13-15	Thyroid, Parathyroid and Neck
Week 14	04/20-22	Breast
Week 15	04/27-29	Scrotum and Prostate, Final Exam 04/29
Week 16	05/04-06	Final Exam 05/04, Review 05/06

Note: LAB Instructor may change this syllabus and course schedule any time according to his judgment as to what is best for the class. Any changes will be declared ahead of time in class. Students will scan to liver, internal body parts to protocol and body parts will be available for lab discussion in weeks listed above.

Lab Grading Requirements:

***Scanning to performance:** Effective use of lab time, development of scanning skills, applying techniques, effective use of ultrasound machine (s) controls, IE: TGC, Depth PRF, Freq. Transducers to improve images on each patient. No Cell Phones Allowed.

***Attendance:** Being punctual, participation and working during class time. Absents, late arrivals, non-use of class times, early leaves will reflect student(s) lower and or failing grade.

*** Mid Term, Final:** Exams will focus on protocol, annotations to body images, quality of images, demonstrating proper use of the ultrasound machines in control adjustments to obtain best body images, basic knowledge of anatomy. Exams, protocol to images must be completed within allowed time. Non-completion, poor behavior, disruption, requiring assistants or dishonesty will result in failing exam and course.

Syllabus updated: 01/13/2015