



# Lincoln University

## DI 170 – Abdomen and Small Parts Scanning (Lab)

### COURSE SYLLABUS Spring 2019

**Instructor:** Setareh Dehdashty , RDMS (AB, OB/GYN)  
**Lecture Schedule:** Wednesday and Thursday, 12:30 PM – 3:15 PM  
**Credits:** 3 units / 90 Lab hours  
**Level:** Developed (D)  
**Office Hours:** By appointment  
**e-mail:** [sdehdashty@lincolnuca.edu](mailto:sdehdashty@lincolnuca.edu)

**Textbooks and Resource Materials:** **Textbook of Diagnostic Sonography:** Vol. 1& vol.2 Sandra L. Hagen-Ansert, 7th Edition (2011).  
ISBN-10: 0323073018, ISBN-13: 978-0323073011  
**Sonography Scanning Principles & Protocol Betty Bates Tempkin (ELSEVIER)**  
**SDMS: Society of Diagnostic Medical Sonography**  
**AIUM: American Institute of Ultrasound in Medicine**

**Last Revision:** January 2, 2019

### COURSE DESCRIPTION

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

### EDUCATIONAL 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

### COURSE LEARNING OUTCOMES<sup>1</sup>

	Course LO	Program LO	Institution LO	Assessment activities
1	Understand the anatomy, physiology and normal variations of abdominal organs	PLO 1 PLO 2	ILO 1a, ILO 2a, ILO 3a	Lab activities
2	Recognize sonographic signs of pathological findings and differential diagnosis.	PLO 2 PLO 3 PLO 4	ILO 1a	Lab activities, midterm examination
3	Be able to perform the basic Doppler waveform analysis	PLO 1 PLO 3 PLO 4	ILO 1a, ILO 4a	Lab activities, midterm examination, final examination

### INSTRUCTIONAL METHODS:

Instructional methods include 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
- Course materials
- Recommended study guide activities
- Internet resources
- Group discussions and ultrasound case analysis
- 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

Assignments and projects require students to actively use resources of the library. Detailed guide to business resources *of the library* as well as the description of Lincoln University approach to *information literacy* are available at the [Center for Teaching and Learning](http://ctl.lincolnuca.edu) website (ctl.lincolnuca.edu).

### REQUIREMENTS:

Students are expected to be prepared in advance of the lab sessions.

Preparation includes the following: having read course materials assigned for each lab session and bringing required work materials (e.g., textbook, handouts, writing supplies, etc.) to the session.

Homework includes reading topics prior to the class and the preparation for a presentation

<sup>1</sup> Detailed description of learning outcomes and information about the assessment procedure are available at the [Center for Teaching and Learning](http://ctl.lincolnuca.edu) website (ctl.lincolnuca.edu).

(details are described below).

Students are expected to attend and participate in all the lab activities, and complete homework and the final examination on time. Therefore, attendance and being on time are crucial for final grade. Students must budget time efficiently and be realistic about all personal and professional commitments that consume time.

### **RECOMMENDED SELF-STUDY:**

- Review anatomy location, patient's position, images techniques.
- Additional sources: **Sonoworld.com, Ultrasoundpedia.com, Sonoaccess App, Ultrasoundcases.info**

### **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 students 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.

### **COURSE GUIDELINES:**

To successfully complete this course, students must complete 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, homework and presentation, final examination, and lab. Homework is due by the last meeting before the final examination. No homework will be accepted after the due date.

If a student misses a class without a valid reason, no make-up exam is allowed. With a valid document, a student is allowed to take missed tests within one week. There is no make-up/retest for a failed final exam. Dictionaries can be used during the class time. No electronic devices during the test time. The exam 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, the 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 exam. As soon as a student leaves, his/her exam is considered finished. Students should read textbooks and use other sources to be prepared for the test.

### **TESTING:**

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

During the final ultrasound hands-on examination, students will have to demonstrate understanding of information presented during the 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 students 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-allowed time! The student will only have the remaining time left as schedule. Only one-time retest will be given to students with a valid excuse such as illness, family emergency, unforeseen heavy traffic or natural disaster.

### LAB GRADING:

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

**Attendance:** Being punctual, participation and working during class time. Absences, late arrivals, non-use of class times, and early leaves will result in student's poor and/or failing grade.

**Final Exam** will focus on protocols, annotations to anatomy images, quality of images, demonstrating proper use of the ultrasound machines in control adjustments to obtain best anatomy images, basic knowledge of anatomy location and recognition. The exam protocol to images must be completed within allowed time, no retest. Non-completion, poor behavior, disruption, requiring assistants or dishonesty will result in failing exam and course.

### GRADING:

Attendance	10%
Scanning Performance in the Lab Sessions	20%
Mid Term Exam	30%
Project	10%
Final Exam	30%
<b>Total</b>	<b>100%</b>

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Points	94-100	90-93	87-89	84-86	81-83	78-80	76-77	74-75	72-73	70-71	0-69

**LAB SCHEDULE: DI 170 (Lab)**

<b>Week #</b>	<b>Dates</b>	<b>Topics:</b>
Week 1	01/16-17	Abdomen Ultrasound Protocols & Principles
Week 2	01/23-24	Liver 1
Week 3	01/30-31	Liver 2
Week 4	02/06-07	Liver 3
Week 5	02/13-14	GB & Biliary System
Week 6	02/20-21	Portal Venous System
Week 7	02/27-28	Pancreas
Week 8	03/06-07	Spleen; Mid-term exam
Week 9	03/13-14	Aorta & IVC
Week 10	03/20-21	Kidneys
Week 11	03/27-28	Bladder & Prostate
Week 12	04/03-04	Thyroid, Parathyroid and Neck
Week 13	04/10-11	Breast
Week 14	04/17-18	Scrotum
Week 15	04/24-25	Review
Week 16	05/01-05/02	Final Exam

**Note:** The lab instructor may change this syllabus and course schedule any time according to the 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.