



# Lincoln University

## DI 241 – Advanced OB/GYN Scanning (Lab)

### COURSE SYLLABUS Spring 2019

- Instructor:** Ms. Setareh Dehdashty, BS, RDMS  
**Lecture Schedule:** Tuesday and Wednesday, 3:30 PM – 6:15 PM  
**Credits:** 3 units / 90 hours of lectures  
**Level:** Advanced (A)  
**Office Hours:** By appointment  
**e-mail:** [sdehdashty@lincolnuca.edu](mailto:sdehdashty@lincolnuca.edu)  
**Textbook and Additional Sources:** Exam Prep Diagnostic Ultrasound: Sanders/Dolk/Miner. ISBN-10: 0781717787, ISBN-13: 978-0781717786

Review anatomy, fetal position and presentation, imaging techniques, biometrics, and pathologies.

Sonoworld.com, Ultrasoundpedia.com,  
Sonoaccess App.

**Last Revision:** January 10, 2019

### CATALOG DESCRIPTION

The course includes interpretation of normal anatomy, sonographic and gross anatomy, demonstration of scanning techniques and identifying protocols for OB/GYN.  
*Prerequisite: DI 231*

### EDUCATIONAL OBJECTIVES

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

1. Prepare OB/GYN patients for exams and perform Ultrasound technical studies
2. Select proper transducer frequency and focal length
3. Evaluate sonograms for completeness and quality and prepare each scan for interpretation
4. Maintain the lab results and record of all performed examinations
5. Recognize normal and abnormal obstetric and pelvic anatomy
6. Identify the difference in techniques related to transabdominal and transvaginal pelvic scanning techniques

At the completion of the course, the student will be able to:

1. Identify fetal anatomy and complete the biophysical profile

2. Identify fetal anomalies and their ultrasound appearance
3. Apply appropriate measurement techniques in transabdominal and endovaginal scanning
4. Complete the entire obstetrical examination within the allotted time

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

<b>Course LO</b>	<b>Program LO</b>	<b>Institution LO</b>	<b>Assessment activities</b>
Perform the medical interview and physical examination of women incorporating ethical, social, and diversity perspectives to provide culturally competent health care. Apply recommended prevention strategies to women throughout the life span. Develop sonographer's role as a leader and advocate for women	PLO 3 PLO 4	ILO1a, ILO 3a	Midterm and final exams, case-studies in lab.
Analyze the impact of genetics, medical conditions, and environmental factors on maternal health and fetal development. Distinguish between normal and abnormal physiologic changes during pregnancy.	PLO 5	ILO 1a, ILO 3a, ILO 7a	Lab activities
Interpret common diagnostic studies. Differentiate between normal and abnormal bleeding using knowledge of menstrual cycle physiology, puberty and menopause	PLO 5	ILO 2a	Midterm and final exams
Construct differential diagnoses of patients with common benign gynecological conditions. Formulate a differential diagnosis of the acute abdomen and chronic pelvic pain	PLO 4 PLO 5	ILO 2a, ILO 6a	Midterm and final exams
Demonstrate knowledge of preconception care including the impact of genetics, medical conditions and environmental factors on maternal health and fetal development (preconception care; 1 <sup>st</sup> trimester care; prenatal diagnosis)	PLO 7	ILO 6a, ILO 7a	Midterm and final exams, case-studies in lab.
Explain the normal physiologic changes of pregnancy including interpretation of common diagnostic studies ( new OB prenatal visit; routine prenatal care follow-up visit; conduct, record and present OB patient history)	PLO 5	ILO 2a, ILO 6a	Midterm and final exams, case-studies in lab.

<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).

**ASSESSMENT ACTIVITIES RELATED TO COURSE LEARNING OUTCOMES:**

Students' scanning techniques, speed, and accuracy will be evaluated daily during scanning in the lab. Their knowledge of obstetrical pathology and syndromes will be examined and assessed orally two times a week, during the lab class.

**INSTRUCTIONAL METHODS:**

- Demonstration of the scanning techniques in normal OB/GYN ultrasound exam
- Demonstration of OB/GYN scanning protocols, data analyses and reporting
- Recommended study by AIUM Practice Guideline for the Performance of Obstetric Ultrasound Examinations
- Internet resources
- Group discussions and ultrasound case analyses
- Working with ultrasound machines
- Hands-on laboratory training (protocols handouts) and examination
- Ultrasound laboratory live and video demonstrations
- Students' PowerPoint presentations
- Students' ultrasound hands-on self-study training

Assignments and projects require students to actively use resources of the library. A 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).

**STUDENT RESPONSIBILITIES**

Students are expected to be prepared in advance before the class sessions. Being prepared includes the following: wear uniform (Lincoln University logo scrubs), do not use cell phones in class, attend all classes, be on time to class, participate in scanning lab, ask questions, memorize protocols, bring appropriate materials to class (e.g. notebook, writing utensils, handouts), having read course materials, collect images for review, retrieve instructor's signature to sign off organs and small parts protocols, use class time effectively and efficiently, and practice scanning during lab hours and self-lab hours.

**SCANNING LAB RULES****Lab Hours:**

- **Lab hours are posted on the front door.** Please respect class time, try not to enter when a class is in session, or be quiet if you come late.
- **Use student subsection envelope for questions or concerns.**
- **Sign in on the preferred machine** with your name, start time and finish time. You must re-sign in if you want to continue to scan after you finish it. See clipboards.

**Respect Others and Lab:**

- **No eating or drinking in the lab.**
- **No cell phones** (exit the room if must use phone).

- **Clean up after yourself** (table, transducer, put away chairs and other equipment, trash, etc.).
- **Inform instructor or staff of needed supplies or equipment broken.**
- **Keep a low tone of voice.** The lab is small; speaking loudly can be very disruptive to students who need their concentration on scanning.
- **Do not interrupt students' scanning time.** Ask the students whether it is okay to ask them questions while they are scanning.
- Never leave your **personal property** unattended. Although Lincoln University does have a zero tolerance for theft, the university is not responsible for lost or stolen items. Any students caught stealing will be prosecuted.
- **Please do not remove any objects from the lab** (books, study materials).
- **Leave personal conversation outside the lab.**
- **Outside patients:** Please inform your outside patients to only bring 1 person with them, due to the lab size and the number of students present.
- **No children are allowed unless being scanned.**

#### **Machines (Acuson, Phillips, and GE):**

- Please kindly shut down the machine after the scanning class.
- Do not erase any information on machines (only instructors and lab assistants may do).
- Please inform lab assistants of needed supplies (baby wipes, paper towels, gel).
- Wipe down the transducer after every patient, using the Tran septic spray.
- Change paper after every patient, and place pillow under paper, not on top.
- Please safely move around the equipment (ultrasound machines, patient tables).

#### **HOMEWORK AND PRESENTATION**

Students will analyze images received during each lab session. Images containing anomalies should be selected and kept for the future presentation to others. Then each student will perform library research on a selected topic in the field of Advanced OB/GYN, and present the findings during a lab class orally with a PowerPoint presentation consisting of a 10-minute presentation and a 5-minute question period.

Students should include enough background information, ultrasound images received during classes, pictures and references for their peers to be able to understand the topic.

Each student will choose the topic of his/her presentation with the instructor's approval. **The approval must be obtained by November 10th, 2017.** The presentation time for each student will be assigned on a first come, first served basis during class hours or instructor's office hours, by phone, or by E-mail.

The oral presentation must be completed **at least two weeks before your final hands-on lab examination** (see schedule below).

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

- Clinical statement: 4%
  - Background information: 4%
  - Slide content: 4%
  - Slide design: 2%
  - Resolution of the problem: 4%
  - Oral presentation: 2%
- Total: 20% of all the course grading elements.

### **HANDS-ON LAB EXAM:**

- Each student will be assigned a partner and time.
- Each partner will have his/her turn to perform parts of the O Exam covering any of the material taught during the semester.
- All OB/GYN protocols will be demonstrated and the Instructor will train students during the semester.
- Students must conduct and demonstrate finished ultrasound protocols with the required quality of sonograms: proper use of transducers, scanning modes (B-scan, Color-, Power-, and Spectral Doppler), color mapping, accurate measurements of anatomical structures, and proper labels on the images, etc.
- Students must submit all the final performance of scanning required by the OB/GYN protocols learned in the course throughout the semester.
- Students must conduct OB/GYN protocols in the final lab exam.
- The final exam dates are scheduled in the syllabus (see schedule below).
- **STUDENTS MUST PASS THE FINAL EXAM WITH AN AVERAGE OF 72-69% (GRADE “C”) OR BETTER; OTHERWISE YOU WILL FAIL THE ENTIRE COURSE AND WILL NEED TO TAKE THE COURSE AGAIN.**

### **GRADING**

Attendance	10%
Presentation	20%
Scanning Performance in the Lab Sessions	30%
Final Exam	40%
Total	100%

All activities will be graded according to the points as shown below.

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

**AN INSTRUCTOR MAY DISMISS A STUDENT FROM THE COURSE AFTER MISSING 3 CONSECUTIVE CLASSES.**

**COURSE SCHEDULE:**

WEEKS		ULTRASOUND HANDS-ON SCANNING
1 W	01/15	Sonographic Evaluation of Female Pelvis. Hands-on demonstration. Ergonomics.
	01/16	Sonographic Evaluation of Female Pelvis, preliminary report writing practice.
2 W	01/22	Sonographic Evaluation of Female Pelvis. Hands-on scanning, protocols and Image quality.
	01/23	Sonographic Evaluation of Female Pelvis. Hands-on scanning, protocols and Image quality.
3 W	01/29	Sonographic Evaluation of Female Pelvis. Hands-on scanning, protocols and Image quality.
	01/30	Sonographic Evaluation of Female Pelvis. Scanning and students' images evaluation.
4 W	02/05	Doppler Evaluation of Female Pelvis. Hands-on demonstration.
	02/06	Doppler Evaluation of Female Pelvis, preliminary report writing practice.
5 W	02/12	Doppler Evaluation of Female Pelvis. Hands-on scanning, protocols and Image quality.
	02/13	Doppler Evaluation of Female Pelvis. Hands-on scanning, protocols and Image quality.
6 W	02/19	Doppler Evaluation of Female Pelvis. Hands-on scanning, protocols and Image quality.
	02/20	Doppler Evaluation of Female Pelvis. Scanning and students' images evaluation.
7 W	02/26	Review of Fetal Embryology, First Trimester OB Anatomy and Pathology
	02/27	Sonographic Evaluation of First Trimester Pregnancy. Hands-on demonstration. Ergonomics.
8 W	03/05	Sonographic Evaluation of First Trimester Pregnancy. Hands-on scanning, protocols and Image quality
	03/06	Sonographic Evaluation of First Trimester Pregnancy. Hands-on scanning, protocols and Image quality.
9 W	03/12	Sonographic Evaluation of First Trimester Pregnancy. Scanning and students' images evaluation.
	03/19	Sonographic Evaluation of Second and Third Trimester Pregnancy. Hands-on demonstration OB measurements. Ergonomics.
10 W	03/19	Sonographic Evaluation of Second and Third Trimester Pregnancy. Hands-on scanning, OB measurements, writing protocols and evaluation Image quality.
	03/20	Sonographic Evaluation of Second and Third Trimester Pregnancy. Scanning Placenta, Umbilical cord and Amniotic Fluid. Images evaluation.
11 W	03/26	Sonographic Evaluation of Second and Third Trimester Pregnancy. Scanning Fetal Head and Neck. Images evaluation.

	03/27	Sonographic Evaluation of Second and Third Trimester Pregnancy. Hands-on scanning fetal Heart and Blood vessels. Writing preliminary report. Evaluation Image quality.
12 W	04/02	Sonographic Evaluation of Second and Third Trimester Pregnancy. Scanning Fetal Abdomen Images evaluation.
	04/03	Sonographic Evaluation of Second and Third Trimester Pregnancy. Scanning Fetal Abdominal Wall. Images evaluation.
13 W	04/09	Sonographic Evaluation of Second and Third Trimester Pregnancy. Scanning Fetal Urogenital system (#1). Images evaluation.
	04/10	Sonographic Evaluation of Second and Third Trimester Pregnancy. Scanning Fetal Urogenital system (#2). Images evaluation.
14 W	04/16	Presentation group 1
	04/17	Presentation group 2
15 W	04/23	Practice Final hand on
	04/24	Practice final hands on examination
16w	04/30	Final exam group 1
	05/01	Final exam group 2