



LINCOLN UNIVERSITY

DI 140 – OB/GYN Scanning (Lab)

Course Syllabus

Fall 2025

Instructor: Dr. Olesya Smolyarchuk
Lecture Schedule: Monday, Friday 3:30 pm – 6:15 pm
Credits: 3 units / 90 hours of Lab
Pre-requisites: DI 130
Level: Developed (D)
Office Hours: By appointment
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Last Revision: 7/19/2025

NOTE: Instructor may change this syllabus and course schedule at any time according to the judgment as to what is best for the class. Any changes will be declared ahead of time in class.

Recommended textbooks:

1. **Textbook of Diagnostic Sonography: vol.2** Sandra L. Hagen-Ansert, 7th Edition (2011). ISBN-10: **0323073018**, ISBN-13: **978-0323073011**
2. **Obstetrics & Gynecology, by Susan Stephenson, 4th edition**
ISBN-10: 1496385519 ISBN-13: 978-1496385512
3. **Ultrasounds Secrets**, Vikram Dogra MD, Deborah J. Rubens MD
ISBN 1-56053-594-6

CATALOG DESCRIPTION

Scanning protocols and practices for the ultrasound examination in obstetrics and gynecology. (3 units)

COURSE OBJECTIVES

- Understand ultrasound ergonomics
- Identify anatomy of the female pelvic in Obstetrics and Gynecology
- Learn basic anatomy images and protocols: Uterus, Ovaries, Fetus biometrics

- Acquire a broad understanding of B-mode, M-mode, Doppler, Color and Spectrum
- Recognize normal physiologic processes in female
- Differentiate between normal and abnormal sonographic findings
- Recognize sonographic normal fetal anatomy
- Describe physiology and pathology of the placenta and amnion
- Describe sonographic and fetal acquired, congenital and genetic diseases
- Demonstrate knowledge of presenting biometrics
- Prepare for externship

COURSE LEARNING OUTCOMES¹

	Course Learning Outcome	Program Learning Outcomes	Institutional Learning Outcomes	Assessment activities
1	Demonstrate knowledge of preconception care including the impact of genetics, medical conditions and environmental factors on maternal health and fetal development (preconception care; 1 st trimester care; prenatal diagnosis)	PLO 3 PLO 4 PLO 7	ILO 4a	Quizzes, midterm and final exams, case-studies in lab.
2	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 PLO 6	ILO 1a, ILO 3a,	Lab activities.
3	Demonstrate knowledge of intrapartum care (present patient for labor admission; premature rupture of membranes (PROM)	PLO 5	ILO 2a	Quizzes, midterm, and final exams

INSTRUCTIONAL METHODS

- Live lecture / demonstration ultrasound protocols including measurements in class
- Laboratory hands-on training with protocol handouts and worksheets
- Real time imaging to locate, identify, measure biometrics, and recognize ultrasound images in female and fetal anatomy

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 [LU Library](http://lincolnuca.libguides.com) website (lincolnuca.libguides.com).

¹ Detailed description of learning outcomes and information about the assessment procedure are available at the [Learning Outcomes Assessment](#) section of LU website.

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 suggestion envelope for questions or concerns.**
- Students are encouraged to use open lab time as needed. **Minimum 10 self-study lab hours of independent** scanning throughout the semester should be recorded in a log sheet as a part of each student's hands-on self-study training.
- **In advance, 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. Ask a lab assistant.

Respect Others and Lab:

- **Must wear university uniform with logo and face mask in the Lab if you are sick.**
- **No eating or drinking in the lab!** You can drink water in a specific area away of ultrasound machines.
- **No cell phones** (exit the room with instructor's permission if you must use phone).
- **Clean up after yourself** (table, transducer, put away chairs and other equipment, trash, etc.).
- **No perfume or scented lotions.**

Suggestions:

- 1) If you wear perfume from the previous day, take a shower before leaving home.
 - 2) If you have a strong scent or odor on your clothes/shoes change your clothes/shoes before leaving your place to clean/fresh one.
 - 3) Wash or clean your uniforms/scrubs/shoes regularly.
 - 4) If you are sweating a lot, a suggestion is to bring extra clothes with you that you can change during the long day and use cleaning wipes for body.
- No long nails.
 - **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 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 or study materials).
 - **Leave all personal conversation outside the lab.**
 - **Outside patients:** reconcile with your instructor.
 - **No children are allowed in the lab.**
 - **Self-study log sheet:** should be signed by pen every time by a present lab assistant otherwise the study time will not be counted.

Machines (Acuson Simens, Phillips, and GE Logiq 9):

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

Attendance and Participation:

Students' responsibility to be on time for a class.

- **Students who are tardy, who arrive after roll is taken will consider absent.**
- **Students are not allowed to be more than 5 minutes late.**
- **If you are late or absent, a valid excuse such as illness (provide doctor's note), family emergency, or natural disaster is expected. Students should provide proof of an excuse absence.**
- **Three late arrivals would affect the grade.**
- **If you are late because of unforeseen heavy traffic on a routine basis you will not be allowed to stay in the class.** You should plan your route to school with extra time for traffic in advance.
- **If a student arrives twice late for the same session (at the beginning of the class and after break more than 5 minutes late) would be considered absent.**
- No requirements to make up any work missed as a result of an absence. However, it is your responsibility to obtain notes from other class members regarding the class session you missed.
- **AN INSTRUCTOR MAY DISMISS A STUDENT FROM THE COURSE AFTER MISSING 3 CONSECUTIVE CLASSES.**

COURSE GUIDELINES

- To successfully complete this course, the students must pass the midterm and final exam portions with 70% (every exam) or better. **Students should attend all the class meetings - labs. However, considering possible urgent situations, students should contact the instructor.**
- The term grade is based on attendance, class activity, project, self-study completed hours, midterm, and final examination.
- Individual projects will be assigned at the beginning of the semester. **Project is due by the last meeting. No project will be accepted after the due date.**
- If students have missed a class project, no make-up for presentations will be allowed.
- **Midterm cannot be retaken.**
- **Final examination, if failed, can be retaken only once. If failed a second time, the subject is considered failed. The course is considered failed if student fails Lab final examination.** Dictionaries can be used during class time. No electronic devices during the test time. A 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 circumstances, 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 exam, any student observed in a situation that can be considered cheating (e.g., an open book or notebook within his/her field of vision, looking around or checking a cell phone, or other wireless devices, helping the examinee-sonographer to take images by guiding manually or verbally, etc.) will be warned. Once warned, any applicant found cheating on the exam will be failed for the exam and prohibited from retaking the 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, review lectures from previous course, and use other sources to be prepared for the exam. Lecture is to guide the students to prepare for the course subjects.

Ultrasound Hands-on Laboratory Examination:

- Midterm and Final Exams will be performed on scheduled days in the presence of the lab instructor.
- The length of the examination will depend on the type of ultrasound protocol.
- The score (%) will be determined by calculating the ratio of the correct / incorrect images acquired and recorded by the student.
- Depending on the quantity, each image of the protocol will be valued at certain number of points.
- The points for missed (or completely incorrect) ultrasound images will be subtracted from the total 100% score.
- Extra time for the exam will be subtracted from the total score.
- The added score of the correct ultrasound images (according to the protocol requirements) will represent the total examination grade.
- Non-completion, poor behavior, disruption, requiring assistants or dishonesty will result in failing exams and course.
- Self-study log sheets should be submitted for Midterm and Final exams.
- During the final ultrasound hands-on examination, students will have to demonstrate understanding of information presented primarily during the demo, lectures, and hands-on laboratory training, i.e., Protocols, Images, Anatomy, Biometrics and Complete exam time (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 need to be at the ultrasound lab, ready to start scanning at the exact time as scheduled. 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).
- Arrive about 15 minutes prior to your scheduled exam time.
- If you are late for the 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.

GRADING**Evaluation Criteria for Project:**

- Clinical statement: 2%
- Background information: 2%
- Slide content: 2%
- Slide design: 1%
- Resolution of the problem: 2%
- Oral presentation: 1%

Total: 10% of all the course grading elements

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

The final grade for the course will be given as the total weighted score for all activities according to the percentage shown in the table below.

Lab	Performance of scanning protocols	20%
	Midterm	30%
	Project	10%
	Final Exam	30%
	Lab Attendance	10%
Total		100%

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, the student 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 instructor 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 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 drinks, eating, sleeping or personal grooming is permitted during ultrasound laboratory classes.
- 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 lab 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 or cell phone 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 instructor.

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.

COURSE SCHEDULE

Week #	Dates	Topics
Week 1	08/25 – 29	Clinical Protocols, GYN: Uterus TA & EV
Week 2	09/05	GYN: Uterus
Week 3	09/08 – 12	GYN: Endometrium / Ovaries / Adnexa
Week 4	09/15 – 19	GYN: Endometrium / Ovaries / Adnexa
Week 5	09/22 – 26	GYN: Endometrium / Ovaries / Adnexa
Week 6	09/29 – 10/03	Clinical Protocols, OB 1st Trimester, Biometrics
Week 7	10/06 – 10/10	Clinical Protocols 2nd and 3rd Trimesters, Biometrics Mid Term exam
Week 8	10/13 – 17	2 nd Trimester (18-23 weeks) Anatomy survey
Week 9	10/20 – 24	2 nd Trimester (18-23 weeks) Anatomy survey Placenta, Cervix, Amniotic fluid, and Umbilical cord
Week 10	10/27 – 31	2 nd Trimester (18-23 weeks) Anatomy survey
Week 11	11/03 – 7	2 nd and 3 rd Trimesters, Biometrics
Week 12	11/10 – 14	2 nd and 3 rd Trimesters, Biometrics.
Week 13	11/17 – 21	3 rd Trimester Biophysical profile.
Week 14	11/25 – 29	Fall Recess
Week 15	12/01 – 05	3 rd Trimester Fetal Growth and EFW
Week 16	12/08 – 12	Final Exam, Presentations

Note:

- Instructor may change this syllabus and course schedule at any time according to the judgment as to what is best for the class. Any changes will be declared ahead of time in class.
- Lab weekly schedule will adjust to the volume and trimesters of volunteer patients.
- Lab. Phone for appointments: (510) 238-9744.

Syllabus updated: July 2025