



LINCOLN UNIVERSITY

DI 140 – OB/GYN Scanning (Lab)

Course Syllabus

Fall 2019

Instructor: Dr. Olesya Smolyarchuk
Lecture Schedule: Wednesday, Thursday 9:00 am – 11:45 am
Credits: 3 units / 90 hours of Lab
Pre-requisites: *DI 130 OB/GYN Ultrasound II (lectures)*
Level: Developed (D)
Office Hours: Monday and Friday 10:00 am – 1:00 pm by appointment
E-mail: osmolyarchuk@lincolnuca.edu
Telephone: (510) 238-9744

Last Revision: 9/28/2019

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
4. **Ultrasound Scanning Principles and Protocols, 3rd edition**, Betty Bates Tempkin
ISBN 978-0-7216-0636-1

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. 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).

Ultrasound Hands-on Laboratory Examination:

Practical experience will gain under the guidance of the instructor. Students are expected to arrive at the class on time, and stay through the end of the ultrasound laboratory class. During the Hands-On Lab Examination, students should demonstrate:

¹ 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).

1. The understanding of the information presented primarily from previous course of lectures DI 130.
2. The knowledge of the anatomy, physiology, normal variations, and pathology of the OB/GYN.
3. In-depth knowledge of the ultrasound scanning protocols and the ability to present images in a logical sequence.
4. The use of different acoustic windows to achieve the best picture quality possible.
5. The ability to select the proper transducer for the exam
6. The knowledge of the ultrasound machine capabilities for the optimal quality of diagnostic images (frequency, TGC, B-mode, focal zones, color scale, gain, depth, etc).
7. The ability to describe the optimal techniques related to the field size, power, gain, contrast for the interpretation.
8. Knowledge of the elements of the image labeling
9. Explanation of the sonographic findings and differential diagnosis of OB/GYN pathology
10. Since the intent of the lab examination (midterm and final) is for students to demonstrate the knowledge of the scanning protocol, it is not allowed to ask questions and discuss the scanning procedures with classmates. Reference materials are not allowed.

Attendance and Participation:

- **Students who are tardy, who arrive after roll is taken will consider absent.**
- **Students are not allowed to be more than 15 minutes late.**
- **If you are late or absent, a valid excuse such as illness, family emergency, unforeseen heavy traffic or natural disaster is expected.**
- **Three late arrivals would affect the grade.**
- **If you are late because of unforeseen heavy traffic more than 3 times during the semester it will consider as absence.**
- **If a student arrives twice late for a one session (at the begging of the class and after break more than 5 minutes late) would consider 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.

COURSE GUIDELINES:

- To successfully complete this course, the students must pass the midterm and final exam portions with a 70% or better. **Students should attend all the class meetings - labs. However, considering possible urgent situations, students may be absent from maximum three class meetings with prior notice to the instructor.**
- The term grade is based on attendance, class activity, project, midterm, and final examination. Individual projects will be assigned at the beginning of the semester. **Project is due by the last meeting before the final examination. No project will be accepted after the due date.**
- If students have missed a class without a valid reason, no make-up for presentations will be allowed. **Midterm and Final examination, if failed, can be retaken only once. If failed second time, the subject is considered failed. The course is considered failed if student fails Lab final examination.** Dictionaries can be used during the 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 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 exam, any student observed in a situation that could be considered suspicious (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.) but no cheating is observed, 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.
- **HOMEWORK:**

The goal of the homework is to help students achieve the course learning objectives. Homework consists of two parts. First part is to read the textbooks and materials to review and analyze the lecture given during a previous class session or previous course. Students are expected to spend six hours for each class session outside of class in completing the reading assignments or review materials from previous lecture course. Second part of the homework consists of a project presented at the end of the course. Each student will choose the topic for presentation or will be assigned one by the instructor. The presentation should be approximately 10 minutes long and with 5 minutes for a discussion. The presentation should include ultrasound images related to the topic of presentation. The images need to be dated and should indicate the student's name; if a chosen topic is about pathology, ultrasound images might be taken from the internet resource and books. The topic and format for the presentation will be discussed in class for more details. A final draft of the presentation must be submitted for review one week prior to the presentation.

GRADING

Scanning Performance: 20%

Effective use of lab time, demonstrating development of scanning skills, applying scan techniques, effective use of ultrasound machine controls, IE: TGC, Depth PRF, Freq. Transducers, and improving images on each patient. Complete/full participation and working during class time is expected. Students are encouraged to use open lab time as needed.

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

Evaluation criteria for Scanning Exam:

GYN ultrasound scanning exam (Transabdominal or transvaginal exam) - time 40 minutes, every extra 2 minutes – minus 1 point.

- Patient’s data entering – 1 point
- Type of exam (preset) - 1 point
- Correct order of following images – 2 points
- Image assessment: Depth, Frequency - 1 point
 - Gain, TGC - 1 point
 - Focal zones - 1 point
 - Color Doppler (color box size and color scale)– 1 point
 - Measurements – 1 point
 - Image labeling - 1 point

Total: 10 points.

Obstetric ultrasound scanning exam:

Level 1 (basic findings, fetal biometry) – **30 minutes, every extra 2 minutes – minus 1 point.**

Level 2 (basic findings, fetal biometry, fetal anatomy) – **45 minutes, every extra 2 minutes – minus 1 point.**

- Patient’s data entering – 1 point
- Type of exam (preset) - 1 point
- Correct order of following images – 2 points
- Image assessment: Depth, Freq. - 1 point
 - Gain, TGC - 1 point
 - Focus - 1 point
 - Color Doppler (color box size and color characteristics), M-mode/PW– 1 point
 - Measurements – 1 point
 - Image labeling - 1 point

Total : 10 points -100%.

The points for missed (or completely incorrect) ultrasound images will be subtracted from the total 100% score.

The added score of the correct ultrasound images (according to the protocol requirements) will represent the total examination grade.

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%

Attendance: 10%

Absences, late arrival, poor use of class times, early leaves will result in students poor or failing grade.

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 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 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, 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 failure on the assignment to failure in the course too.

COURSE SCHEDULE

Week #	Dates	Topics
Week 1	08/21 - 22	Clinical Protocols, GYN: Uterus TA & EV
Week 2	08/28 - 29	GYN: Uterus
Week 3	09/04 - 05	GYN: Endometrium / Ovaries / Adnexa
Week 4	09/11 - 12	GYN: Endometrium / Ovaries / Adnexa
Week 5	09/18 - 19	Clinical Protocols, OB 1st Trimester, Biometrics
Week 6	09/25 - 26	Clinical Protocols 2nd and 3rd Trimesters, Biometrics
Week 7	10/02 - 03	2nd Trimester (18-23 weeks) Anatomy survey
Week 8	10/09 - 10	2 nd Trimester (18-23 weeks) Anatomy survey Case studies.
Week 9	10/16 - 17	Mid Term exam 2nd Trimester (18-23 weeks) Anatomy survey
Week 10	10/23 - 24	2nd and 3rd Trimesters, Biometrics
Week 11	10/30 - 31	2nd and 3rd Trimesters, Biometrics. Case studies.
Week 12	11/06 - 07	3rd Trimester Biophysical profile. Case studies.
Week 13	11/13 - 14	3rd Trimester Fetal Growth and EFW
Week 14	11/20 - 21	Placenta and Cervix, Amniotic fluid and Umbilical cord
Week 15	11/27 - 28	Fall Recess
Week 16	12/04 - 05	Presentations, Final Exam

Note:

- Lab weekly schedule will adjust to the volume and trimesters of volunteer patients.
- Lab session is very dependent on OB volunteers for walk-ins or schedule appointments. Your assistance in recruitment of OB volunteers is necessary to insure real-time practice and your skills development. Please schedule appointments if you have OB volunteers with the Lab assistance.
- Lab. Phone for appointments: (510) 238-9744.

Syllabus updated: September 2019