LINCOLN UNIVERSITY

Spring 2018 Course Syllabus

DI 130 –OB/GYN ULTRASOUND

Credit: 3 units / 45 lecture hours
Level: Developed (D)
PREREQUISITE: DI 120
Class Sessions: Wednesday, 12:30 pm –3:15 pm (Lec)
Instructor (Lec): Ludmila Zakasovskaya,
MD, RDMS (ABD, BRT, OB/GYN), RVT
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Office Hours: Wednesday: by appointment

REQUIRED TEXTBOOK:

OBSTETRICS AND GYNECOLOGY BY SUSAN RAATZ STEPHENSON THIRD EDITION ISBN—13 978-1-60831-117-0

SUGGESTED TEXTBOOK: CALLEN'S ULTRASONOGRAPHY IN OBSTETRICS AND GYNECOLOGY SIX EDITION ISBN 978-0-323-32834-0

ULTRASOUND IN OBSTETRICS AND GYNECOLOGY A PRACTIONER'S GUIDE; KATRYN A. GILL ISBN 978-0-941022-80-4

Additional recommended textbooks and instructional materials will be given during the classes.

COURSE DESCRIPTION:
This course will present the use of ultrasound in Obstetrics studies. Assessment of the fetal structures, normal and pathological findings, that can be evaluated by employing ultrasound as an imaging modality.

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

- Explain the difference between the basic and targeted ultrasound examinations.

- List the images required to document the fetal anatomic survey during basic and targeted scans.
- Perform Sonographic evaluation in the second and third trimesters of pregnancy, explain the role of Ultrasound in managing patients during the second and third trimesters.
- Assessment of normal Fetal Anatomy.
- Recognize the abnormal Fetal Anatomical findings, describe some of the findings that a fetus might be chromosomally abnormal.
- Assessment of Fetal Age and Size in the Second and Third Trimester, Calculate estimated fetal weight.
- List Fetal ratios that help determine normal growth of the fetus
- Explain the embryonic development of the placenta and umbilical cord.
- Identify the normal and abnormal appearance of the placenta, cord, uterus and cervix during pregnancy
- Determine images of the fetal environment to include in the sonographic examination.
- Explain embryonic development of the fetal face, brain, and neural tube.
- Describe sonographic appearance of the neural tube structures normal and abnormal.
- Recognize the sonographic appearance of the normal and abnormal fetal chest, abdomen and pelvic anatomy.
- Summarize the use of three dimensional (3D) volumes in determine normal vs. Abnormal anatomy.
- Describe the sonographic techniques for the basic fetal echocardiographic examination.
- Associate sonographic findings with cardiac abnormalities.
- Describe the normal sonographic appearance of the fetal skeletal system.
- Identify fetal skeletal abnormalities and their associated findings.
- Explain the application of the Doppler ultrasound of the fetus, differentiate between quantitative and qualitative Doppler indices.
- Understand maternal and fetal complications that occur with multiple pregnancies.
- Discuss patterns of anomalies using the terminology associated with each form.

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;
- Ultrasound laboratory live & video demonstrations;
- Students' ultrasound hands-on self-study.

REQUIREMENTS:

- This is a lecture course in which lecture topics are presented by the instructor.
- Students are expected to be prepared in advance of the class sessions.
- Preparation includes the following: having read text materials (e.g., textbook readings, and lecture outlines) assigned for each class session and bringing required work materials (e.g., textbook, handouts, writing supplies, etc.) to the session.
- Homework includes reading topics prior to the class.
- Students are expected to attend and participate in all course lectures and activities, and complete all quizzes, examinations and course assignments 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.

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 pass the quizzes, project, midterm and final exam portions with a 70% or better. Students should attend all the class 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 affect the grade.

The term grade is based on attendance, class activity, project, midterm and/or sum of quizzes, final examination, and lab. 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 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 for missed or failed midterm. The final examination, if failed, can be retaken only once, on May 9. 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.) but no cheating is observed, will be warned. Once warned, any applicant found cheating on 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.

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. Students are expected to spend six hours for each class session outside of class in completing the reading assignments related to each lecture. These assignments are graded through short quizzes given at the beginning of the following class session. 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. 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.

Evaluation Criteria for Project:

- Clinical statement: 2%
- Background information: 2%

- Slide content: 2%
- Slide design: 1%
- Resolution of the problem: 2%
- Oral presentation in class: 1%

Total: 10% of all the course grading elements

TESTING:

Quizzes:

Students will take 10 quizzes; 10-15 questions each. These quizzes will address the detailed content and major concepts presented in the lectures, lecture outlines and text readings to evaluate students' work outside of the classroom. If a student takes more than ten quizzes, only the best ten quiz scores will be used in calculating the student's total points. Each quiz will be timed; 1 minute for every question to complete. No make-up quizzes for missed quizzes will be administered (students will receive no score for missed quizzes).

GRADING:

Evaluation		Weighting
Lecture	**Attendance**	**10%**
	Quizzes	**20%**
	Project	**10%**
	Midterm Exam	**30%**
	Final Exam	**30%**
Total		**100%**

GRADING SCALE:

%	Grades
100-94	**A**
93-90	**A-**
89-87	**B+**
86-84	**B**
83-81	**B-**
80-78	**C+**
77-76	**C**
75-74	**C-**

73-72	**D+**
71-70	**D**
69<	**F**

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, he or she 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.
- **Disruptive behavior will not be tolerated.**
- Students engaging in disruptive behavior in class will be asked to leave and may be subject to other penalties if the behavior continues.
- No eating, sleeping or personal grooming is permitted during lecture and ultrasound laboratory classes.
- Drinks only in closed container.
- Please turn off your cell phones.
- 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 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.

LECTURE SCHEDULE: Wednesday 12:30 pm – 3:15 pm

Weeks	Lecture #	Dates	Topics	Quizzes
Week 1	**1**	**01/17/18**	**OBSTETRIC ULTRASOUND EXAMINATION, GENETICS AND PRENATAL GENETIC TESTING, ULTRASOUND EVALUATION OF THE FETAL**	

			ANEUPLODY	
Week 1	**2**	**01/17/18**	**FETAL BIOMETRY AND GROWTH. ULTRASOUND EVALUATION OF THE PLACENTA, UMBILICAL CORD, CERVIX**	**1**
Week 2	**3**	**01/24/18**	**ULTRASOUND EVALUATION IN MULTIPLE GESTATIONS**	**2**
Week 2	**4**	**01/31/18**	**ULTRASOUND EVALUATION OF NORMAL FETAL ANATOMY**	**3**
Week 3	**5**	**02/07/18**	**ULTRASOUND EVALUATION OF THE FETAL CENTRAL NERVOUS SYSTEM**	**4**
Week 3	**6**	**02/14/18**	**ULTRASOUND OF THE FETAL FACE AND NECK**	**5**
Week 4	**7**	**02/21/18**	**FETAL MUSCULOSCELETAL SYSTEM**	**6**
Week 4		**02/28/18**	**Midterm Written Exam**	
Week 5	**8**	**03/07/18**	**FETAL THORAX**	**7**
Week 5	**9**	**03/28/18**	**SONOGRAPHIC EVALUATION OF THE FETAL HEART**	**8**
Week 6	**10**	**04/04/18**	**ULTRASOUND EVALUATION OF THE FETAL GASTROINTESTINAL TRACT AND ABDOMINAL WALL, GENITOURUNARY TRACT**	**9**
Week 6	**11**	**04/11/18**	**ULTRASOUND FEATURES OF FETAL SYNDROMS**	**10**
Week 7	**12**	**04/18/18**	**AMNIOTIC FLUID ON FETAL HEALTH AND DISEASE**	**11**
Week 8		**04/25/18**	**PRESENTATION**	
Week 9		**05/02/18**	**FINAL EXAM**	

Syllabus updated: January 2018

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.

Appendix A. Program and Institutional Learning Outcomes.

Institutional Learning Outcomes (ILOs)

Graduates of the BS program of Lincoln University should be able to:

1a	Develop the habits and skills necessary for processing information based on intellectual commitment, and using these skills to guide behavior.
2a	Raise important questions and problems, and formulate them clearly and precisely in oral or written communication
3a	Act with dignity and follow the principles concerning the quality of life of all people, recognizing an obligation to protect fundamental human rights and to respect the diversity of all cultures.
4a	Focus on individual and organizational benefits; communicate to co-workers and company's leadership in facilitation of collaborative environment; to be honest and transparent with regard to their work, and to be respectful of the work of others.
5a	Display sincerity and integrity in all their actions, which should be based on reason and moral principles; to inspire others by showing mental and spiritual endurance
6a	Show creativity by thinking of new and better goals, ideas, and solutions to problems; to be resourceful problem solvers.
7a	Define and explain the boundaries, divisions, styles and practices of the field, and define and properly use the principal terms in the field

Program Level Outcomes (PLOs)

Students graduating our BS in Diagnostic Imaging program will be able to:

1	Develop and demonstrate knowledge in principles of UT, medical terminology, physiology, sonography, and echocardiography.
2	Demonstrate ability of accurate patient positioning techniques, and use of imaging technology
3	Adapt imaging procedures based on patient's needs and clinical limitations.
4	Practice effective oral and written communication skills in the clinical setting

Appendix B. Classification of LU Curriculum courses

Code	Classification	Description
Courses < 10, and 300A/300B	Review (R)	Review courses are supplemental courses that are not a part of any program.
Courses 10 - 99	Introductory (I)	Introductory undergraduate courses are designed to acquaint students with foundational concepts, ideas, and competences in a specific field of study as well as general education disciplines. General Education courses provide a background in the liberal arts and expose students to the fundamental aspects of human culture. They also help students to develop analytical and communication skills and foundation for advanced work in the major field of study.
Courses 100 - 199	**Developed (D)**	**Developed undergraduate courses build upon the concepts, ideas, and competences introduced in the Introductory level; expanding students' understanding of the specific field of study.**
Courses 200 - 286	Advanced (A)	Advanced courses in undergraduate programs are intended to bring students' comprehensive knowledge of concepts, ideas, and skills in the specific field of study to the highest level within the baccalaureate programs.
Courses 288 -	Bachelor	Bachelor Assessment courses are structured to provide opportunity to assess students' achievements

299	Assessment (BA)	of set program learning outcomes.
Courses 300 level w/o graduate prerequisites	Mastery 1 (M1)	Mastery 1 courses introduce graduate level concepts and ideas in a specific field of study and provide an opportunity to initiate the development of graduate level competences.
Courses 300 level with graduate prerequisites	Mastery 2 (M2)	Mastery 2 courses build upon students' execution of Mastery 1 learning outcomes and allow for further development of students' mastery of concepts, ideas, and competences in the specific field of study.
Courses 398, 399	Mastery 2 / Assessment (M2A)	Mastery 2/Assessment courses are structured to provide opportunity to assess students' achievements of set program learning outcomes.
Courses 400 level	Mastery 2 / Research (M2R)	Mastery 2/Research courses employ individual research project to deepen students' understanding of the subject developed in lower level courses and to equip students with knowledge and skills required by MS and DBA degree programs.
Courses 500 level	Doctorate Assessment (DA)	Doctoral Assessment courses are doctorate level seminars and research activities fostering the highest level of professional expertise by providing continuous assessment and development of students' ideas and analytical skills in the context of the doctorate program.