

Sonography of High Risk Obstetrics (DMSO 2442)



Credit: 4 semester credit hours (3 hours lecture, 2 hours lab)

Course Description

Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.

Required Textbook and Materials

1. Textbook of Diagnostic Ultrasonography, Vol. Two 6th Edition; Sandra L. Hagen-Ansert; Elsevier Mosby
2. Textbook of Diagnostic Ultrasonography Workbook, 6th Edition, Sandra L. Hagen-Ansert; Elsevier Mosby

Course Objectives

Upon completion of this course, the student will be able to:

1. Identify and differentiate normal and abnormal fetal and maternal structures. (SCANS: F1, F2, F3, F5, F6, F10, F11)
2. Demonstrate pertinent measurement techniques and scanning techniques using accepted protocols. (SCANS: C5, C6, C7, C8, C18, C19)
3. Evaluate patient history and laboratory data as it relates to ultrasound. (SCANS: F1, F2, F5, F10, F11)
4. Select appropriate transducer for area of interest. (SCANS: C5, C6, C7, C18, C19)

SCANS Skills and Competencies

Beginning in the late 1980's, the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work settings to determine what knowledge workers needed in order to perform well on a job. In 1991 the Commission announced its findings in *What Work Requires in Schools*. In its research, the Commission determined that "workplace know-how" consists of two elements: foundation skills and workplace competencies.

Course Outline

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|---|---|
| A. 1 st Trimester Complications Ch 44: | 7. Abnormal Gestational Sac |
| 1. Cranial Abnormalities | 8. Gestational Trophoblastic Disease |
| 2. Abdominal Wall Defects | B. Evaluation of Fetal Growth Ch 47 & 49: |
| 3. Ectopic Pregnancy | 1. Intrauterine Growth Restriction |
| 4. Complete and Incomplete Abortions | 2. Placenta Involvement |
| 5. Fetal Demise | 3. Amniotic Fluid Index |
| 6. Anembryonic Pregnancy | |

Approved 06/2010

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- 4. Biophysical Profile
- 5. Umbilical Artery Doppler
- 6. Macrosomia
- 7. Maternal Serum Markers
- 8. Chromosomal Abnormalities
- C. High Risk Pregnancies
 - 1. Hydrops Fetalis
 - 2. Isoimmunization
 - 3. Alloimmune Thrombocytopenia
 - 4. Maternal Diseases
 - 5. Preterm Labor
 - 6. Multiple Gestation
 - 7. Abnormalities in Multiple Gestations
- D. Placenta, Umbilical Cord, and Amniotic Fluid Ch 51, 52, & 53
 - 1. Placental Abnormalities
 - 2. Umbilical Cord Abnormalities
 - 3. Abnormal Amniotic Fluid Levels
- E. Fetal Face & Neck
 - 1. Abnormalities of the fetal profile
 - 2. Abnormalities of the skull
 - 3. Abnormalities of the upper lip and nose
 - 4. Abnormalities of the orbit
 - 5. Facial Clefts
 - 6. Abnormalities of the neck
- F. Fetal Neural Axis Ch 55
 - 1. Fetal Brain Abnormalities
 - a. Anencephaly
 - b. Acrania
- c. Cephalocele
- d. Encephalocystomeningocele
- e. Dandy-Walker Malformation
- f. Agenesis of Corpus Callosum
- g. Holoprosencephaly
- h. Aqueductal Stenosis
- i. Vein of Galen Aneurysm
- j. Cysts of the fetal brain
- k. Ventriculomegaly
- 2. Fetal Spine Defects
 - a. Spina Bifida
- G. Fetal GI & Abdominal Wall Defects
 - 1. Normal Development of the Bowel
 - 2. Omphalocele
 - 3. Gastroschisis
 - 4. Umbilical Hernia
 - 5. Amniotic Band Syndrome
 - 6. Beckwith-Wiedemann Syndrome
 - 7. Cloacal Exstrophy
 - 8. Pentalogy of Cantrell
 - 9. Limb-Body Wall Complex
 - 10. Meckel's Diverticulum
 - 11. Abnormalities of the Hepatobiliary System
 - 12. Situs Inversus & Partial
 - 13. Pseudoascities
 - 14. Atresia of portions of the GI system
 - 15. Bowel Obstructions

Grade Scale

93-100	A
85-92	B
75-84	C
70-74	D
73.5	F

Course Evaluation

Final grades will be calculated according to the following criteria:

Lecture is 75% of Grade

- 10% Class participation/Homework assignments
- 60% Exams
- 30% Final Exam

Lab is 25% of Grade

- 60% Lab Quizzes
- 40% Lab Final

Course Requirements

1. Unit exams
2. Participation and challenges assigned in lab
3. Workbook assignments due on each test day
4. On-line CME courses found @ www.gehealthcare.com (under online CME courses)
 - a. Sonographic Evaluation of Ectopic Pregnancies (online)
 - b. Breath of Life: Embryology, Pathophysiology, and ... Placenta (handout)
 - c. Oligohydroamnios: Sonographic Assessment (online)
 - d. Fetal Intrauterine Growth Restriction IUGR (handout)
 - e. Biophysical Profile Score (online)
 - f. Sonographic Evaluation of the Fetal Head (handout)
5. Two case studies of fetal abnormalities

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.
3. Do not bring children to class.
4. Students are expected to be in class unless prior arrangements have been made. Absences must be limited to serious illness and/or immediate family emergencies; unexcused absences are not allowed. Three (3) absences will result in a letter grade reduction. Excessive tardiness (more than 10 minutes/class or more than 2 consecutive classes) will result in an absence being awarded. In the event that LIT is forced to cancel classes due to inclement weather, DMS classes and clinical rotation will also be canceled. Notification of closures will be made through local radio and TV stations. Students out of the immediate broadcast area should contact the Program Director for information. It is extremely important that students communicate with faculty regarding absences by telephone and/or email at all times.
5. All assignments are due when stated. Late assignments are not accepted. If a student has an *excused absence* with written documentation, assignments will be accepted at the beginning of class upon return. Missed in-class assignments receive a grade of zero.
6. All exams will be on the dates specified unless the instructor makes a change. In case of an absence on exam day, the exam must be completed on the day the student returns to class or a grade of zero will be awarded. Any exam grade less than a 75 is unacceptable and will result in student being placed on academic probation. A score of 75 or greater final average on tests must be met to continue in the program. Any

student with a semester exam average of 85% or greater is exempt from taking the final exam.

7. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
8. Academic Dishonesty: "The Institute expects all students to engage in all academic pursuits in a manner that is above reproach and to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. The Institute may initiate disciplinary proceedings against a student accused of any form of academic dishonesty, including but not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials." (LIT Student Handbook, 2003-2004, p.55-57) See the Sonography Handbook for penalties.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule

Date	Topic	Reference
June 3rd	1 st Trimester Complications	Chapter 44, page 998
June 8th	Test Chapter 44	Workbook Due
June 10th	Fetal Growth & Assessment	Chapter 47, page 1074
	Prenatal Diagnosis of Congenital Anomalies	Chapter 49, page 1107
June 15th	Test Chapters 47 & 49	Workbook Due
June 17th	High Risk Obstetrics	Chapter 48, page 1086
June 22nd	Test Chapter 48	Workbook Due
June 24th	Case Study #1	
June 29th	Placenta, UC, AFI	Chapter 51-53 page 1147
July 1st	Test Chapters 51-53	Workbook Due
July 8th	Fetal Face and Neck	Chapter 54, page 1181
July 13th	Test Chapter 54	Workbook Due
July 15th	Fetal Neural Axis	Chapter 55, page 1205

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Date	Topic	Reference
July 20th	Fetal Neural Axis Cont.	
July 22nd	Test Chapter 55	Workbook Due
July 27th	Fetal GI & Abdominal Wall Defects	Chapter 57-58, page 1242
July 29th	Test Chapter 57-58	Workbook Due
August 3rd	Fetal Thorax	Chapter 56, page 1228
August 5th	Chapter 56 Test	
August 10th	Case Study #2	

Contact Information:

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