

# DMS A275: SONOGRAPHIC REVIEW

Item	Value
Curriculum Committee Approval Date	10/24/2018
Top Code	122700 - Diagnostic Medical Sonography
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	Yes
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S)

## Course Description

Review of advanced scanning techniques and other ultrasound topics including physics and instrumentation. Interpretation of normal and abnormal sonography. PREREQUISITE: DMS A274. Transfer Credit: CSU.

## Course Level Student Learning Outcome(s)

1. Describe and recognize techniques and applications in the areas of abdominal, superficial structures, miscellaneous, vascular, and OB/GYN sonography and submit original research for publication to a medical journal.

## Course Objectives

- 1. Recognize and discuss normal and abnormal obstetrical sonography.
- 2. Recognize and discuss normal and abnormal gynecologic sonography.
- 3. Recognize and discuss normal and abnormal abdominal sonography.
- 4. Recognize and discuss normal and abnormal sonography of superficial structures.
- 5. Recognize and discuss normal and abnormal sonography of neonatal brains.
- 6. Recognize and discuss normal and abnormal sonography of the breast.
- 7. Recognize and discuss normal and abnormal sonography of peripheral vascular system.
- 8. Recognize and discuss normal and abnormal sonography of neurovascular system.
- 9. Discuss and apply principles of diagnostic physics.
- 10. Demonstrate knowledge of sonographic protocols for all areas of sonography.
- 11. Demonstrate knowledge of research and writing by submitting an article for publication in a medical journal.

## Lecture Content

Review Obstetrical Sonography Sonographic anatomy Sonographic pathology Sonographic scan protocols, Doppler applications Sonographic

first trimester Sonographic second trimester Sonographic third trimester Sonographic patient care Sonographic-guided procedures Other imaging modalities Review Gynecologic Sonography Sonographic anatomy Sonographic pathology Sonographic scan protocols, Doppler applications Sonographic patient care Sonographic-guided procedures Pediatric sonography Postmenopausal sonography Reproductive Assistance sonography Other imaging modalities Review Abdominal Sonography Sonographic anatomy Sonographic pathology Sonographic scan protocols, Doppler applications Sonographic patient care Sonographic-guided procedures Other imaging modalities Review Sonography of Superficial Structures Sonographic anatomy Sonographic pathology Sonographic scan protocols, Doppler applications Sonographic patient care Sonographic-guided procedures Other imaging modalities Review Sonography of Neonatal Brains Sonographic anatomy Sonographic pathology Sonographic scan protocols, Doppler applications Sonographic patient care Sonographic-guided procedures Other imaging modalities Review Sonography of Breast Sonographic anatomy Sonographic pathology Sonographic scan protocols, Doppler applications Sonographic patient care Sonographic-guided procedures Other imaging modalities Review of Vascular Sonography Sonographic anatomy Sonographic pathology Sonographic scan protocols, Doppler applications Sonographic patient care Sonographic-guided procedures Other imaging modalities Review Sonographic Physics and Instrumentation Propagation of Ultrasound through tissues Ultrasound Transducers Sonographic instruments Principles of pulse echo imaging Image storage and display Hemodynamics, Doppler color flows and Doppler pulswave Image features and artifacts Quality Assurance of Ultrasound machines Bioeffects and Safety Research, write and present a paper related to a sonographic case

## Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)

## Instructional Techniques

Lecture, discussion and study groups and use of appropriate PowerPoint presentations. On-line lecture exams.

## Reading Assignments

It is recommended that students read 4 hours per week from the assigned text.

## Writing Assignments

Students are required to write an original research paper/case report, which will require 2 hours per week.

## Out-of-class Assignments

Students will research and write original research. This is 6 pages, and will require 2 hours per week.

## Demonstration of Critical Thinking

Textbook assignments and exams in each area of sonography are given. Critical thinking is demonstrated by class participation when discussing sonographic findings and differential diagnoses.

## Required Writing, Problem Solving, Skills Demonstration

Students are required to research and write an original paper. They will present their paper to the class.

## Eligible Disciplines

Diagnostic medical technology-diagnostic medical sonography, neurodiagnosti...: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

## Textbooks Resources

1. Required Edelman, Sidney. Understanding Ultrasound Physics, Fundamentals and Exam Review, 2012 ed. Woodland Hills: Esp, Inc., 2012  
Rationale: - 2. Required Kawamura, D.M.. Diagnostic Medical Sonography, Abdomen and Superficial Structures, Third ed. Philadelphia: Lippincott Williams Wilkins, 2018 3. Required Stephenson, S.R.. Diagnostic Medical Sonography, Obstetrics and Gynecology, Third ed. Philadelphia: Lippincott Williams Wilkins, 2018