



DMS-538: ULTRASOUND SEMINAR (FORMERLY DMS-134)

Effective Term

Fall 2025

BOT Approval Date

12/17/2024

Discipline

DMS - Diagnostic Medical Sonography

Course Number

538

Course Title

Ultrasound Seminar (formerly DMS-134)

Short Title

Ultrasound Seminar

Credit Status (CB 04)

D - Credit - Degree applicable

Units**Lecture Units**

2.00

Total Units

2.00

Hours**Lecture Contact Hours**

32-36

Out of Class Hours Lecture

64-72

Total Contact Hours

32 - 36

Total Out of Class Hours

64 - 72

Total Student Learning Hours

96 - 108

Distance Education

No

Catalog Description

This course is the final semester, after prior semesters of pathophysiology of the abdomen, small parts, and OB-Gyn. This course is a review of ultrasound physics/instrumentation; exams of: abdomen, superficial structures of the thyroid, breast, testicular; gynecology, first, second, and third semesters of obstetrics. Discussion of interesting and/or rare cases pertaining to clinical symptoms, sonographic patterns and technical pitfalls will be studied. Review and practice testing to prepare for the ARDMS registry examinations and instruction on writing a resume, and mock interviews will be included in the course. (formerly DMS-134)



Requisites

Prerequisite(s)

Prerequisite(s) (must be taken before)

DMS-132 (with a grade of C or better).

Codes

TOP Code (CB 03)

1227.00* - *Diagnostic Medical Sonography

CIP Code

51.0910 - Diagnostic Medical Sonography/Sonographer and Ultrasound Technician.

Repeatability Code

No

Grading Option

Letter grade OR P/NP

Learning Objectives

Learning Objectives

Learning Objective

1. Complete registry review practice exams in the topics of abdomen, thyroid, breast, testicular, gynecology, and first, second, and third trimesters of Obstetrics.
2. Document sonographic appearance of pathologies seen on an abdomen, small parts, obstetrics and female pelvis ultrasound examination.
3. Analyze a complete ultrasound exam and determine a differential diagnosis based on the images provided.
4. Discuss sonographic protocol for pathological conditions.
5. Evaluate lab results and pertinent patient history of an ultrasound examination.
6. Prepare a resume reflecting educational background, hospital experience, scanning abilities, and references.
7. Prepare for and participate in a mock interview in preparation for future interviews.
8. Incorporate personal clinical experiences that demonstrate the principles of diversity, equity, and inclusion (DEI) within ultrasound practice.

Learning Outcome Information

Course Learning Outcomes

Learning Outcome

1. The student will apply knowledge of anatomy, pathology, and common clinical conditions to interpret ultrasound images accurately.
2. The student will prepare effectively for certification and licensure examinations by reviewing and synthesizing key concepts, techniques, and case studies.
3. The student will apply critical thinking skills to analyze complex clinical cases based on ultrasound findings.
4. The student will create a professional resume and apply interview skills suitable for submission to gain employment as a Diagnostic Medical Sonographer.
5. The student will demonstrate a working knowledge of diverse cultures, equitable patient care, and inclusive treatment of both patients, families, and coworkers.

Program Learning Outcomes

Learning Outcome

1. The student will apply knowledge of anatomy, pathology, and common clinical conditions to interpret ultrasound images accurately and demonstrate a comprehensive understanding ultrasound physics, including imaging principles, artifact recognition, and equipment operation.
2. Complete the American Registry of Diagnostic Medical Sonographers Physics and Instrumentation exam and one or more specialty exams of Abdomen and Obstetrics/Gynecology.
3. Demonstrate professional and ethical behavior in the workplace.
4. Document proper imaging of the abdomen, small parts, obstetrics and gynecology ultrasound exams.
5. Show discretion with and implement HIPPA laws for all patients.
6. Use effective communication with all patients, staff, and physicians.

Institutional Learning Outcomes

Aesthetic Awareness: The student will identify and evaluate how aesthetic expression leads to an appreciation of social and cultural context as well as the values of art and nature.

Communication: The student will effectively express and exchange ideas through listening, speaking, reading, writing, visual works, and other modes of interpersonal expression.

Critical Thinking: The student will analyze problems, gather and synthesize relevant information, evaluate ideas, information, and evaluate alternative points of view to create, innovate and implement effective solutions.

Cultural Awareness and Humility: The student will demonstrate knowledge of and sensitivity toward individuals of diverse ethnicity, age, gender, sexual orientation, and religious affiliations, as well as toward those individuals with diverse abilities and socio-economic classes to respectfully interact with individuals of diverse perspectives, beliefs and values while being mindful of the limitation of their own cultural frameworks.

Information and Technology Literacy: The student will access, interpret, evaluate, and apply relevant information sources and digital media effectively, and in an ethical and legal manner.

Scientific Awareness: The student will apply the scientific method of inquiry to assess potential solutions for real-life challenges by employing science-based knowledge and methodologies in daily life.

Social Awareness: The student will recognize and analyze the interconnectedness of global, national, and local concerns, analyzing cultural, political, social, and environmental issues from multiple perspectives and appreciate similarities and differences among cultures.

Civic

Personal

and Professional Responsibility

Content

Course Lecture Content

I. The ARDMS Abdomen registry exam content outline - The ARDMS AB examination covers the following content areas. All percentages are an approximate distribution of the questions across the content areas.

A. Anatomy, Perfusion, and Function 30%

1. Assess physical characteristics of anatomic structures
2. Assess perfusion and function of anatomic structures

B. Pathology, Vascular Abnormalities, Trauma, and Postoperative Anatomy 42%

1. Assess anatomic structures for pathology
2. Assess anatomic structures for vascular abnormalities
3. Assess anatomic structures for trauma-related abnormalities
4. Assess aspects related to postoperative anatomy

C. Abdominal Physics 8%

1. Apply concepts of equipment/image optimization
2. Apply concepts of imaging artifacts

D. Clinical Care, Practice, and Quality Assurance 20%

1. Incorporate clinical data with performed study
2. Incorporate clinical standard/guidelines with performed study
3. Obtain accurate measurements
4. Assist/support during procedures

II. The ARDMS registry exam content outline - Obstetrics and Gynecology Examination Content Outline (Outline Summary)- The ARDMS OB-GYN examination covers the following content areas. All percentages are an approximate distribution of the questions across the content areas.

- A. Gynecology - Pelvic Anatomy and Physiology 19%
 - 1. Normal Anatomy and Physiology
 - 2. Abnormal Physiology and Perfusion
- B. Obstetrics - First Trimester 12%
 - 1. Normal Anatomy and Physiology First Trimester
 - 2. First Trimester Abnormalities and Complications
- C. Obstetrics Second/Third Trimester 37%
 - 1. Normal Anatomy and Physiology - Second/Third Trimester
 - 2. Fetal Abnormalities- Second/Third Trimester
 - 3. Placental and Umbilical Cord Abnormalities
 - 4. Cervix and Maternal Pathology
- D. Protocols and Procedures 24%
 - 1. Clinical Standards and Guidelines
 - 2. Measurement Techniques - Gynecology
 - 3. Measurement Techniques - Obstetric
 - 4. Sonographer Role in Procedures
- E. Physics and Instrumentation 8%
 - 1. Hemodynamics- Gynecology
 - 2. Hemodynamics- Obstetric
 - 3. Imaging Instruments

III. Resume Writing

- A. Form and Format
- B. Types
- C. Content
- D. References

IV. Mock Interviews

- A. Soft Skills
 - 1. Teamwork
 - a. Cultural competence
 - 2. Time management
 - 3. Problem solving
 - 4. Adaptability
 - 5. Collaboration
- B. Preparing and researching for an interview
- C. Professional skills
 - 1. Knowledge
 - a. Anatomy
 - b. Physiology
 - c. Ultrasound exam protocols
 - d. Scanning technique/ability
 - 2. Clinical Experience
 - a. Total hours
 - b. Patient Care
 - i. Patient centered care
 - ii. Cultural competence
 - 1. respect patient values

2. respect patient beliefs/traditions

Methods of Instruction

Method

Discussion

Integration

Group discussion will be used to involve instructor and student in reviewing assigned chapter topics each week; overhead display in class will be used to view the chapter review test; students will discuss questions missed and evaluate group flash card questions/ concepts to improve understanding or test question format

Method

Film/video Viewing and Discussion

Integration

Video presentations may be used demonstrating the sonographic appearance of pathologies and possible differential diagnosis to clarify difficult concepts

Method

Role Playing/Simulation

Integration

Role playing job interviews with the instructor and classmates using tips and learned interview methods

Method

Visiting Lecturers

Integration

Guest lecturer from prior graduating DMS alumni, counseling department, or job development department will discuss techniques of resume writing and job interviewing for successful employment.

Method

Homework

Integration

Weekly topics for homework assignments will be presented in the classroom through power point, video, or classroom discussion of the topic

Methods of Evaluation

Method

Class Participation

Integration

The students will be given 10 points for each of the five flash cards, a total of 50 points can be earned each week. Questions must be taken from the registry review text with written questions on each card. Each flash card should include a clear and concise question and the correct answer on the back.

Method

Quizzes

Integration

Written registry review tests are found at the end of each topic chapter. Students will be given points on how accurately they answer weekly review questions on abdomen, small parts, obstetrics or gynecology. Grading will follow standard percentages set by the Nursing and Allied Health department

Method

Papers

Integration

A written assignment will be used to evaluate the student's ability to compose a resume. The student will submit a professional resume; it will be evaluated on presentation and content of the building skills learned in prior weeks. Points will be earned for each component of the resume: Cover letter, demographic information; objective, education, experience, skills, awards, letter of recommend.

Method

Simulation

Integration

During mock interviews students will be given a set of interview questions and then be evaluated by a panel consisting of the instructor, counseling, clinical affiliate managers, staff, and/or job development employees. Students will receive verbal constructive feedback at the end of the mock interview. Points will be earned as participation points for attending, which are calculated into the students overall grade.

Method

Exams/Tests

Integration

The ARDMS registry exams are scored through ARDMS with a possible score of 700. A scaled score of 555 is required to pass and earn the specialty credential. ARDMS provides students with a printed score digitally. Students must submit this document as an upload into the LMS for the course. The Abdomen and OB-Gyn specialty are worth 100 points each towards the students grade.

Method

Oral Presentation

Integration

Students will be evaluated on their complete interview answers during the mock interviews. Five to seven professionals from backgrounds such as radiology manger, counselor, sonographer, and/or faculty will be taking turns asking questions. Students will be evaluated and earn points for the following criteria for a complete answer. Relevant experience; skills and qualifications; fit for the intended role; career goals; knowledge/facts of the hospital they are applying for; explanation of their roll in a difficult situation; evidence of compassionate patient centered care; patient safety; cultural competence; respect for patient values, beliefs, and traditions, and equitable care for all patients.

Assignments**Assignment Type**

Reading



In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

In the assigned registry review text, by Steven Penny, read the preface pages. Make notes on the objectives of a sonography career; include your time-line study plan of the review text and how you will complete your study before taking the ARDMS registry exams. Your plan should include: reading the required chapter assignment each week on ultrasound examinations of: abdominal, thyroid, testicular, breast, gynecology, and obstetrics.

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Each week, find the registry review practice exam at the end of the assigned chapter. Take the chapter review test by writing your answers on the answer sheet that was handed out in class or downloaded from the LMS files. Score your own review test with the answers provided at the end of the chapter, be prepared to share your thoughts on why those concepts were challenging. Discuss the questions that you missed in class as a group discussion and study session.

Assignment Type

Other

In-class and/or outside of class

In-class

Formative or Summative

Formative

Assignment

Attend the required Resume Building and Mock Interview presentations in class. Guest speakers from MSJC's Counseling and Job Developer/Placement Coordinator team will provide valuable information and tips.

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Summative

Assignment

Write a professional job resume with a cover page. This written assignment should consist of one page for the cover page and one page for the resume; include accurate information for submission to future job postings or career fairs



Assignment Type

Other

In-class and/or outside of class

In-class

Formative or Summative

Summative

Assignment

Arrive on campus at your assigned time to attend a mock (practice) interview. You will be expected to dress appropriately and professionally as you would for a job interview. You will be doing individual interviews, the classroom will be set up as a panel interview with five to seven professionals from backgrounds such as radiology manger, counselor, sonographer, and/or faculty. Bring five copies of your resume to hand to the panel.

Assignment Type

Other

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Log into ARDMS.org, locate the practice test for abdomen and OB-Gyn. These practice exams cost \$25.00. When your payment has been accepted, review the online test-taking tips, ensure your computer is compliant for the question format as instructed. Take the ARDMS practice test online for OB-GYN before the 6th week of instruction and take the Abdomen before the 12th week of instruction; review your results for each exam as assigned in the syllabus, and share your experience as a discussion with your classmates in the following weeks meeting.

Assignment Type

Other

In-class and/or outside of class

Outside of class

Formative or Summative

Summative

Assignment

After the registry eligibility date of 60 days prior to graduation, schedule, pay and complete the ARDMS registry exams for Abdominal (General) and OB-Gyn. The exams may be taken at a test center or at-home proctoring. Upload your results to the LMS.

Assignment Type

Writing

In-class and/or outside of class

In-class

Formative or Summative

Formative



Assignment

Write a total of 5 flash cards consisting of one question on each card from the registry review topic assigned for that week. Bring these flash cards to class the following week. In groups of 3 to 4 students you will quiz each other on the flashcard questions. Discuss these topic questions in your group, expand on your knowledge, and evaluate your understanding: Excellent, sufficient, or requires more study.

Assignment Type

Other

In-class and/or outside of class

In-class

Formative or Summative

Formative

Assignment

Attend scheduled guest speaking sessions which will be presented by prior MSJC DMS graduates on topics such as: preparing for registry exams, study tips, interview advice, test taking advice, and encouragement.

Assignment Type

Reading

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Read the following scholarly article from Sage Journals: Scope of Practice of Sonographers Across the United States: A Survey Study <https://journals.sagepub.com/doi/full/10.1177/87564793231153650>

Be prepared to discuss this article as it pertains to your scope of practice in your future sonography career. Include a list of your daily responsibilities at the hospital or imaging center. Posts will be made either on the LMS discussion or as an in-class open discussion.

Course Materials**Textbooks**

Penny, S. (Nov. 2022). Examination Review for Ultrasound. 3rd Edition. Wolters Kluwer. ISBN: 9781975185480

Other Resources

Ultrasound Registry Review. Ultrasound Registry Review, LLC, (2010-2020/e).

Open Educational Resources

<https://oercommons.org/browse?f.keyword=ultrasound>

Class Size Information**Class Size**

30

Class Size Category

F - Individualized, skills#based instruction/field practice 30

Diversity and Inclusion

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

The prior courses in patient care and clinical experience, teach diverse content that includes patient scenarios describing situations where gender, culture, race, and disabilities have an impact on patient care. Students are continuing in a clinical setting as they progress towards graduation and have the opportunity to provide culturally sensitive care in their clinical internship and professional practice.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

The course resources are offered in multiple forms to offer diverse learning methods to students. Audio learners can utilize voice-over lectures; Visual learners can utilize power-point diagrams, textbook, lab demonstrations, and videos; Hands-on learners can utilize lab simulation and practice concepts or protocols in the campus lab. This course introduces multiple exam review resources including self testing, image identification and diagnosis, audio, and video formats.

Interactions

Explain how the course will incorporate student-to-student interaction.

Opportunities for student to student interaction are encouraged through classroom discussions of resume and interview strategies, individual or group text messaging, and a discussion board is also provided within the CMS Discussion resource where students can share experiences, thoughts, and mentor each other.

Explain how the course will incorporate instructor-to-student interaction.

This course provides opportunities for students to analyze registry review questions, test-taking strategies, and communicate their thoughts with the instructor for immediate feedback. This course also prepares students for employment interviews by participating in a panel mock interview that provides feedback from the instructor and panel participants. Instructors interact through face to face lectures where students may ask questions. The CMS houses announcements, syllabi, voice-over lectures, and course schedule through modules. Instructor uses real-life experience stories during lectures to enhance student learning. Instructor encourages use of office hours or meeting after class if student needs assistance or guidance.

Explain how the course will incorporate student-to-content interaction.

This course is a review semester that summarizes the prior 17 months of learning within the DMS program. Review resources are used weekly to test students on retained knowledge and analyzing ultrasound images. Case studies and scenarios provide real-life or hypothetical scenarios where students can apply their knowledge. This encourages critical thinking and application of clinical experience.

Explain how the course will incorporate student-to-self interaction (metacognitive).

This course provides opportunities for students to set goals on how they will make a plan to successfully pass credentialing registry exams, be knowledgeable and engaging during mock interviews, and create well written resumes. Students will be able view their own exam data to self-assess as they meet goals to complete ultrasound exams without assistance.

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