

# Diagnostic Medical Sonography (DMS)

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## Courses

### ***DMS 4400 Introduction to Sonography: 1 semester hour.***

This course provides an introduction to the profession of sonography and examines the role of the sonographer. An introduction will be provided for pulse-echo imaging, general sonography, cardiac sonography, vascular technology and typical career opportunities available in this field. Su

### ***DMS 4401 Abdominal Sonography I: 2 semester hours.***

This course covers sonographic anatomy and scanning procedures of the abdomen and superficial structures. Emphasis is placed on pathology, the various disease processes, and their sonographic appearance in the areas of soft tissues, blood vessels and organs of the abdominal cavities. Activities structured follow the guidelines of the ARDMS Abdomen (AB) Examination. Su

### ***DMS 4402 Abdominal Sonography II: 1 semester hour.***

This course covers sonographic anatomy and advanced scanning procedures of the abdomen and superficial structures. Emphasis is placed on pathology, the various disease processes, and their sonographic appearance in the areas of soft tissues, blood vessels and organs of the abdominal cavities. Activities structured follow the guidelines of the ARDMS Abdomen (AB) Examination. PREREQ: DMS 4401. F

### ***DMS 4404 OB/GYN Sonography I: 1 semester hour.***

This course covers the anatomy and scanning procedures of the female pelvis and the developing fetus in the first, second, and third trimesters of pregnancy. Emphasis is placed on pathology, various disease processes, and their sonographic appearance. Activities structured follow the guidelines of the ARDMS Obstetrics & Gynecology (OB/GYN) Examination. Su

### ***DMS 4405 OB/GYN Sonography II: 1 semester hour.***

This course covers the anatomy and advanced scanning procedures of the female pelvis and the developing fetus in the first, second, and third trimesters of pregnancy. Emphasis is placed on pathology, various disease processes, and their sonographic appearance. Activities structured follow the guidelines of the ARDMS Obstetrics & Gynecology (OB/GYN) Examination. PREREQ: DMS 4404. F

### ***DMS 4406 OB/GYN Sonography III: 1 semester hour.***

This course covers the anatomy and advanced scanning procedures of the female pelvis and the developing fetus in the first, second, and third trimesters of pregnancy. Additional information on anatomy, pathophysiology, sonographic theory, and sonographic technique will be covered. Emphasis is placed on pathology, various disease processes, and their sonographic appearance. Activities structured follow the guidelines of the ARDMS Obstetrics & Gynecology (OB/GYN) Examination. PREREQ: DMS 4405. S

### ***DMS 4407 Sonography Physics and Instrumentation I: 1 semester hour.***

This course covers the fundamentals of sonography principles and instrumentation, clinical safety, physical principles, and pulsed echo instrumentation. Various types of transducers used to acquire images will be introduced. Information gained in this course will be used to further sonographic practice and activities are structured to follow the guidelines of the ARDMS Sonography Principles & Instrumentation (SPI) Examination. COREQ: DMS 4410. Su

### ***DMS 4408 Sonography Physics and Instrumentation II: 1 semester hour.***

This course covers advanced sonography principles and instrumentation, QA, clinical safety, physical principles, and pulsed echo instrumentation. Image artifacts will also be examined. Information gained in this course will be used to further sonographic practice, and to pass the ARDMS sonography principles & instrumentation (SPI) exam. PREREQ: DMS 4407. COREQ: DMS 4411. F

### ***DMS 4409 Sonography Physics and Instrumentation III: 1 semester hour.***

This course covers advanced sonography principles and instrumentation, QA, clinical safety, physical principles, and pulsed echo instrumentation. Current technology will be examined, including the continuing progression of contrast agents and 3D/4D and emerging imaging advancements and techniques. More emphasis will be placed on critical thinking skills, troubleshooting, and image evaluation. Information gained in this course will be used to further sonographic practice, and to pass the ARDMS sonography principles & instrumentation (SPI) exam. PREREQ: DMS 4408, COREQ: DMS 4412. S

### ***DMS 4410 Fundamentals of Sonography Lab I: 1 semester hour.***

In the laboratory setting, students will apply their knowledge to develop psychomotor and critical thinking skills required to properly perform commonly ordered sonography examinations. This will include hands on scanning exercises and completion of laboratory assignments and competency assessments. Students will acquire knowledge of anatomical landmarks, standard exam protocols, scanning techniques, patient care skills, and proper machine operation and maintenance. COREQS: DMS 4400 and DMS 4407. Su

### ***DMS 4411 Fundamentals of Sonography Lab II: 1 semester hour.***

In the laboratory setting, students will apply their knowledge to develop psychomotor and critical thinking skills required to properly perform commonly ordered sonography examinations. This will include hands on scanning exercises and completion of laboratory assignments and competency assessments. Emphasis will be placed on developing scanning techniques for patients with varying body habitus size, limited mobility, patients unable to communicate, or other non-routine scenarios. Students will acquire knowledge of anatomical landmarks, standard exam protocols, scanning techniques, patient care skills, and proper machine operation and maintenance. PREREQ: DMS 4410. COREQ: DMS 4408. F

### ***DMS 4412 Fundamentals of Sonography Lab III: 1 semester hour.***

In the laboratory setting, students will apply their knowledge to develop advanced psychomotor and critical thinking skills required to properly perform atypical sonography examinations along with interventional procedures such as biopsies, thoracentesis, paracentesis, abscess drainages, and other sterile tray procedures. This will include hands on scanning exercises and completion of laboratory assignments and competency assessments. Students will acquire knowledge of anatomical landmarks, standard exam protocols, scanning techniques, patient care skills, and proper machine operation and maintenance. PREREQ: DMS 4411. COREQ: DMS 4409. S

### ***DMS 4413 Sonography Case Studies I: 1 semester hour.***

This course covers a number of common case studies and teaching files presented with images in different projections to point out specific features, anomalies, pathology, or disease processes. Information gained in this course will be used to further sonographic practice and to assist the student in passing the ARDMS specialty examinations. Su

### ***DMS 4414 Sonography Case Studies II: 1 semester hour.***

This course covers a number of uncommon case studies and teaching files presented with images in different projections to point out specific features, anomalies, pathology, or disease processes. Information gained in this course will be used to further sonographic practice and to assist the student in passing the ARDMS specialty examinations. PREREQ: DMS 4413. Su

***DMS 4415 Sonography Case Studies III: 1 semester hour.***

This course covers a number of rare case studies and teaching files presented with images in different projections to point out specific features, anomalies, pathology, or disease processes. Students will develop a pathology poster board to submit in the state-level exhibit competition. Information gained in this course will be used to further sonographic practice and to assist the student in passing the ARDMS specialty examinations. PREREQ: DMS 4414. S, Su

***DMS 4416 Vascular Sonography: 2 semester hours.***

This course covers a review of ultrasound vascular diagnosis, including peripheral veins and arteries, carotid and vertebral arteries, abdominal vessels, and transcranial Doppler. Information gained in this course will be used to further sonographic practice and develop an understanding of the vascular system. F

***DMS 4417 Superficial Structures in Sonography: 1 semester hour.***

This course covers sonographic anatomy and scanning procedures for superficial structures including the thyroid gland, lymph nodes, hernias, testicles/scrotum, and musculoskeletal anomalies. Emphasis is placed on pathology, the various disease processes, and their sonographic appearance. Activities structured follow the guidelines of the ARDMS. S, Su

***DMS 4418 Breast Sonography: 1 semester hour.***

This course covers the anatomy and scanning procedures of the breast. Pathology identified through screening or diagnostic mammography, breast quadrants, and the clock positions used to identify and isolate breast abnormalities will be reviewed. Emphasis is placed on pathology, various disease processes, and their sonographic appearance (normal vs. abnormal). Emphasis is on professional and technical qualities required of becoming a competent sonographer and learning the basics of performing sonographic breast examinations. Activities structured follow the guidelines of the ARDMS Breast (BR) Examination. S

***DMS 4419 Sonography Specialty Areas: 1 semester hour.***

This course provides advanced applications and theory in perinatology, pediatric imaging, cardiac sonography, vascular technology and typical career opportunities available in these fields. S

***DMS 4451 Research Principles in Sonography: 2 semester hours.***

This course provides a foundation for critical analysis of research and medical literature while developing advanced writing and critical thinking skills. Statistical research concepts and procedures are combined with an emphasis on practical health care applications and dissemination of knowledge. F, Su

***DMS 4476 Sonography ARDMS Registry Review: 1 semester hour.***

Sonography students will review activities structured following the guidelines of the ARDMS to earn the credentials of Registered Diagnostic Medical Sonographer (RDMS). Specific focus concentration areas include: Sonography Principles & Instrumentation (SPI) Examination, Abdomen (AB) Examination, Breast (BR) Examination, and the Obstetrics & Gynecology (OB/GYN) Examination. S, Su

***DMS 4491 Applied Sonography I: 1-8 semester hours.***

Sonography students will attend clinical rotations for up to 32 hours per week. Emphasis is on professional and technical qualities required of becoming a competent sonographer and learning the basics of performing sonographic examinations. Activities structured follow the guidelines of the ARDMS. Clinical rotation schedules will be determined by the clinical coordinator. Su

***DMS 4492 Applied Sonography II: 1-8 semester hours.***

Sonography students will attend clinical rotations for up to 32 hours per week. Emphasis is on professional and technical qualities required of becoming a competent sonographer and learning the basics of performing sonographic examinations. Activities structured follow the guidelines of the ARDMS. Clinical rotation schedules will be determined by the clinical coordinator. PREREQ: DMS 4491. F

***DMS 4493 Applied Sonography III: 1-6 semester hours.***

Sonography students will attend clinical rotations for up to 32 hours per week. Emphasis is on professional and technical qualities required of becoming a competent sonographer and learning the basics of performing sonographic examinations. Activities structured follow the guidelines of the ARDMS. Clinical rotation schedules will be determined by the clinical coordinator. PREREQ: DMS 4492. S

***DMS 4494 Applied Sonography IV: 1-8 semester hours.***

Sonography students will attend clinical rotations for up to 32 hours per week. Emphasis is on professional and technical qualities required of becoming a competent sonographer and learning the basics of performing sonographic examinations. Activities structured follow the guidelines of the ARDMS. Clinical rotation schedules will be determined by the clinical coordinator. PREREQ: DMS 4493. Su

***DMS 4499 Experimental Course: 1-6 semester hours.***

The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.