DIAGNOSTIC MEDICAL SONOGRAPHY (DMS)

DMS 101. Introduction to Diagnostic Medical Sonography
Credits: 1
Typically Offered: FALLSPR
The purpose of this course is to introduce students to the sonography field. Topics will include the origins and evolutions of Diagnostic Medical Sonography, the profile, safety, legal and ethical issues facing sonographers, as well as current sonography examinations and the basic patient care skills demonstrated by the sonographer.

DMS 102. Ultrasound Cross-Sectional Anatomy I
Credits: 3
Prerequisites: Acceptance into the Diagnostic Medical Sonography Program as well as completion of all general education courses.
Corequisites: DMS 104, DMS 105 and DMS 106.
Typically Offered: FALL
The focus of this course will be the detailed study of the normal anatomy and physiology of the abdomen, neck, musculoskeletal, neonatal brain and non-cardiac chest using ultrasound. Additional emphasis will focus on structure orientation and its significance in cross-sections of anatomy. Students will be able to determine normal sonographic appearances and recognize variances and sizes of organs and vessels. This course will also introduce the hemodynamics patterns and spectral waveforms found in the abdominal vasculature.

DMS 103. Abdominal Sonography I
Credits: 5
Corequisites: DMS 105, DMS 106 and DMS 107.
Typically Offered: FALL
This course will provide a detailed study of anatomy, physiology, and pathology of abdominal structures and small parts. Cross-sectional and relational anatomy, anatomic variants, laboratory data and sonographic appearances of normal and abnormal structures will be covered in detail. Interpretation and critique of normal and abnormal anatomy will be presented with correlation of clinical, didactic, and image information. Additional emphasis will be placed on the descriptive and anatomical terminology, grayscale imaging, protocols, and Doppler patterns as seen with various pathologies.

DMS 104. Diagnostic Medical Sonography I
Credits: 3
Prerequisites: Acceptance into the Diagnostic Medical Sonography Program as well as completion of all general education courses.
Corequisites: DMS 102, DMS 105 and DMS 106.
Typically Offered: FALL
This course will expose students to different pathologies of the abdomen organs, blood vessels, thyroid, and neonatal head. This course will focus on ultrasound findings, scanning techniques, patient history, laboratory data, and other imaging modalities to help better understand how to interpret pathology. This course will give special focus to descriptive and anatomical terminology, clinic data, grayscale imaging and Doppler characteristics as seen with various pathologies.

DMS 105. Ultrasound Physics
Credits: 3
Prerequisites: Acceptance into the Diagnostic Medical Sonography Program as well as completion of all general education courses.
Corequisites: DMS 102, DMS 104 and DMS 106.
Typically Offered: FALL
This course will be a study of the physical principles and mathematical equations required to understand diagnostic ultrasound. Course includes parameters of sound waves, pulsed and continuous wave principles, laws of reflection and refraction and the role of piezoelectricity in the production and processing of ultrasound.

DMS 106. Clinical Ultrasound Lab I
Credits: 3
Prerequisites: Acceptance into the Diagnostic Medical Sonography Program as well as completion of all general education courses.
Corequisites: DMS 102, DMS 104 and DMS 105.
Typically Offered: FALL
The focus of this course is hands-on laboratory training with grayscale, color, and spectral Doppler imaging. Emphasis will be placed on proper patient positioning, instrumentation, appropriate sonographic protocols, scanning techniques, recognition and recording of normal and pathological findings, along with associated measurements for the abdomen, pelvis, and small parts.

DMS 107. OB/GYN Sonography I
Credits: 1
Prerequisites: Acceptance into the Diagnostic Medical Sonography Program as well as completion of all general education courses.
Corequisites: DMS 103, DMS 105 and DMS 106.
Typically Offered: FALL
The course will establish the foundation for the imaging technique and interpretation of the female pelvis. The anatomy, anatomic variants, relational anatomy, physiology, pathology, laboratory data, and sonographic appearance of normal and abnormal structures of the female pelvis will be covered. Techniques of transabdominal and transvaginal preparation are introduced. Additional emphasis will be placed on the descriptive and anatomical terminology, clinic data, grayscale imaging, protocols, and Doppler patterns as seen with various pathologies.

DMS 202. Abdominal Sonography II
Credits: 1
Prerequisites: DMS 103, DMS 105, DMS 106 and DMS 107.
Corequisites: DMS 204, DMS 208, DMS 209 and DMS 212.
Typically Offered: SPRING
This course is a continuation of the knowledge and skills acquired in Abdominal Sonography I. The course will provide a detailed study of anatomy, physiology, and pathology of the abdominal structures and small parts not covered in Abdominal Sonography I. Cross-sectional and relational anatomy, anatomic variants, laboratory data and sonographic appearances of normal and abnormal structures will be covered in detail. Interpretation and critique of normal and abnormal anatomy will be presented with correlation of clinical, didactic, and image information. Additional emphasis will be placed on the descriptive and anatomical terminology, grayscale imaging, protocols, and Doppler patterns as seen with various pathologies.

DMS 204. OB/GYN Sonography II
Credits: 4
Prerequisites: DMS 103, DMS 105, DMS 106, and DMS 107.
Corequisites: DMS 202, DMS 208, DMS 209, and DMS 212.
Typically Offered: SPRING
This course is a continuation of the knowledge and skills taught in OB/GYN I (DMS 107). This course is a detailed study of obstetrics covering all trimesters. The anatomy, anatomic variants, and sonographic appearances of normal and abnormal maternal, embryonic, and fetal anatomic structures during the first, second, and third trimesters will be covered. Additional emphasis will be placed on pathology, physiology, pathophysiology, sonographic technique, sonographic appearance, measurements, and Doppler patterns in obstetric abnormalities. This course will give focus to scanning protocol and modifications based on findings and the sonographers role performing interventional/invasive/advanced procedures.

DMS 207. Sonography Registry Review
Credits: 1
Prerequisites: DMS 103, DMS 105, DMS 106, DMS 107, DMS 202, DMS 204, DMS 208, DMS 209, and DMS 212.
Corequisite: DMS 215.
Typically Offered: SUMMER
Students will complete a comprehensive review of prior curriculum in abdominal, OB/GYN and vascular sonography during this course. Students are prepared to take the American Registry for Diagnostic Medical Sonography (ARDMS) specialty examinations in Physics, Abdomen and OB/GYN through group activities, mock tests and discussion. Students develop and refine the analytical and test-taking skills necessary for passing the registry examinations. This course will help students identify pathology through case study presentations.

DMS 208. Vascular Sonography
Credits: 1
Prerequisites: DMS 103, DMS 105, DMS 106 and DMS 107.
Corequisites: DMS 202, DMS 204, DMS 209 and DMS 212.
Typically Offered: SPRING
This course is the study of the anatomy, physiology, pathophysiology, and hemodynamics of normal and abnormal vascular anatomy of the extracranial carotid and peripheral arteries and veins of the upper and lower extremities. Emphasis will be placed on waveform analysis and terminology specific to the hemodynamics of the arterial, venous, and cerebrovascular systems.

DMS 209. Professional Development and Growth in Sonography
Credits: 1
Prerequisites: DMS 102, DMS 104, DMS 105 and DMS 106.
Corequisites: DSM 210, DMS 211, DMS 212.
Typically Offered: SPRING
The purpose of this course is to help students transition from the classroom and lab setting into a clinical setting. Students will be able to recognize the functional skills required to be a Diagnostic Medical Sonographer. Students will observe the day-to-day operations of different ultrasound departments and share their personal reflections. This course will prepare the sonography student for their internship.

DMS 210. Ultrasound Cross-Sectional Anatomy II
Credits: 3
Prerequisites: DMS 102, DMS 104, DMS 105 and DMS 106.
Corequisites: DMS 209, DMS 211 and DMS 212.
Typically Offered: SPRING
The focus of this course is a detailed study of the normal anatomy and physiology of the male and female reproductive system, obstetrics covering all trimesters, breast sonography and vascular systems as it relates to the ultrasound field. Once completed, the students will be able to determine normal sonographic appearances and recognize variances and sizes of organs and vessels. This course will explore the hemodynamics patterns and spectral waveforms found in the male and female pelvis and obstetrics.

DMS 211. Diagnostic Medical Sonography II
Credits: 3
Prerequisites: DMS 102, DMS 104, DMS 105 and DMS 106.
Corequisites: DMS 209, DMS 210 and DMS 212.
Typically Offered: SPRING
This course will expose students to different pathologies of the male and female reproductive systems, obstetrics covering all trimesters, breast and vascular systems. This course will focus on ultrasound findings, scanning techniques, patient history, laboratory data, and other imaging modalities to help better understand how to interpret pathology. Additional emphasis will be placed on descriptive and anatomical terminology, clinic data, grayscale imaging, protocols, and Doppler characteristics as seen with various pathologies.

DMS 212. Clinical Ultrasound Lab II
Credits: 5
Prerequisites: DMS 102, DMS 104, DMS 105 and DMS 106.
Corequisites: DMS 209, DMS 210 and DMS 211.
Typically Offered: SPRING
This course is a continuation of the knowledge and skills gained in DMS 106: Clinical Ultrasound Lab I. The focus of this course is hands-on laboratory training with grayscale, color, and spectral Doppler imaging. Emphasis will be placed on proper patient positioning, instrumentation, appropriate sonographic protocols, scanning techniques, recognition and recording of normal and pathological findings, along with associated measurements for the abdomen, pelvis, small parts, obstetrics, and vascular systems.

DMS 215. Clinical Ultrasound Internship I
Credits: 5
Prerequisites: DMS 102, DMS 104, DMS 105, DMS 106, DMS 209, DMS 210, DMS 211 and DMS 212.
Corequisite: DMS 207.
Typically Offered: SUMMER
Students are assigned to various clinical rotations where they gain hands-on experience under the direction and supervision of assigned clinical preceptors. Students will focus on becoming proficient in the scanning of abdominal organs, superficial structures, pelvis, obstetrics, and vascular systems. Student will expand scanning and patient care skills and as the semester progresses more clinical responsibilities will be given.

DMS 220. Clinical Ultrasound Internship II
Credits: 12
Prerequisites: DMS 102, DMS 104, DMS 105, DMS 106, DMS 207, DMS 209, DMS 210, DMS 211, DMS 212 and DMS 215.
Typically Offered: FALL
In the final course of the Sonography program, the student will focus on becoming proficient in the scanning of the human body. Under the guidance of a clinical preceptor, students will perform hands-on scanning in abdominal, superficial structures, OB/GYN, and vascular systems. Upon completion of this internship, students will be able to perform routine duties and be ready for the workplace as a Diagnostic Medical Sonographer.