

DIAGNOSTIC MEDICAL SONOGRAPHY (DMSP)

DMSP 1100 - Physics of Ultrasound (3 Credits)

This course defines the basic principles of ultrasound physics and introduces the student to their practical use in diagnostic ultrasound. Topics of discussion will include the definition of sound, propagation of sound in tissue, axial and lateral resolution, transducers, sound beams, display modes, and two-dimensional imaging. Offered: Fall, first year.

Corequisites: DMSP 1101

Lecture hours: 3

DMSP 1101 - Introduction to Diagnostic Medical Sonography (2 Credits)

This course is designed to introduce the student to the basic principles of Ultrasound. Professionalism, functions, and desirable attributes of a sonographer will be discussed along with patient care principles and techniques. The course presents the language of sonographers, educational opportunities for the occupation and introduces cross-sectional anatomy. Offered: Fall, first year.

Corequisites: DMSP 1100

Lecture hours: 1

Lab hours: 3

DMSP 1102 - Abdomen Ultrasound I (3 Credits)

This course is designed to introduce the ultrasound student to normal appearing abdominal anatomy, including organs, cavities, structures and vasculature. The sonographic appearance of normal anatomic structures, including anatomic variants and normal Doppler patterns will also be discussed. We will discuss emergent ultrasound procedures and interventional ultrasound procedures. The student develops the skills necessary to perform basic diagnostic ultrasound studies for presentation to the physician and/or radiologist for interpretation. Offered: Spring, first year.

Prerequisites: (DMSP 1101)

Corequisites: DMSP 1105, DMSP 1106, DMSP 1107

Lecture hours: 2

Lab hours: 3

DMSP 1105 - Clinical Observations (2 Credits)

This course is an initial introduction to the clinical environment. It allows the student to familiarize themselves with the operational process and exam protocols of the ultrasound department at their respected clinical affiliate. Offered: Spring, first year.

Prerequisites: (DMSP 1101)

Corequisites: DMSP 1102, DMSP 1106, DMSP 1107

Lab hours: 16

DMSP 1106 - Obstetrics and Gynecological Ultrasound I (3 Credits)

This course is designed to provide the student with an introduction to the accurate assessment and performance of obstetric and gynecologic ultrasound. Normal anatomy of the female pelvis and normal fetal development from conception through the third trimester will be discussed. Pathologic conditions of the female pelvis will be discussed along with hormonal changes that affect the reproductive cycle and laboratory values associated with normal and abnormal findings. Sonographic appearances and standard protocols of the female pelvis and normal fetus will be examined along with first trimester complications. Offered: Spring, first year.

Corequisites: DMSP 1102, DMSP 1105, DMSP 1107

Lecture hours: 2

Lab hours: 3

DMSP 1107 - Physics of Ultrasound II (3 Credits)

This course is a continuation of DMSP 1100. We will continue to discuss ultrasound physics and its use in the clinical environment. Doppler principles, hemodynamics, ultrasound safety and bio-effects will be discussed along with pulsed echo instrumentation. Offered: Spring, first year.

Corequisites: DMSP 1102, DMSP 1105, DMSP 1106

Lecture hours: 3

DMSP 2111 - Abdomen Ultrasound II (3 Credits)

This course is designed to introduce the ultrasound student to the abnormal sonographic and Doppler patterns of disease processes, pathology and pathophysiology of abdominal organs. Normal and abnormal lab values will also be discussed. Offered: Summer.

Prerequisites: (DMSP 1105)

Corequisites: DMSP 2112, DMSP 2113

Lecture hours: 2

Lab hours: 3

DMSP 2112 - Obstetrics and Gynecological Ultrasound II (3 Credits)

This course presents fetal abnormalities from the first trimester through the third trimester as well as the role of sonographers in performing interventional/invasive procedures. Multiple gestations, amniotic fluid index, congenital/genetic anomalies, viability, fetal monitoring, maternal factors, fetal therapy and the post-partum mother will also be discussed. Offered: Summer.

Prerequisites: (DMSP 1105)

Corequisites: DMSP 2111, DMSP 2113

Lecture hours: 3

DMSP 2113 - Clinical Observation and Practicum I (3 Credits)

This is an expansion of the clinical observations course, DMSP 1105. Students will begin their hands-on experience by entering patient data, recording patient history, selecting the appropriate transducer for the exam, positioning the patient for the exam and practicing the art of scanning. Offered: Summer.

Prerequisites: (DMSP 1105)

Corequisites: DMSP 2111, DMSP 2112

Lab hours: 24

DMSP 2200 - Superficial Structures and Pediatric Ultrasound (3 Credits)

This course is designed to provide the student with an introduction to the assessment of superficial structures, neonatal brain, and pediatric ultrasound. The sonographic appearance of related pathology and their processes will be examined. Normal and abnormal lab values will be discussed as well as normal and abnormal Doppler signals of various organs. Offered: Fall, second year.

Prerequisites: DMSP 2112 and DMSP 2113 and DMSP 2111

Corequisites: DMSP 2201, DMSP 2205

Lecture hours: 2

Lab hours: 3

DMSP 2201 - Clinical Observation and Practicum II (3 Credits)

This is an expansion of DMSP 2113 with increasing responsibilities of the student sonographer. This course allows student observation and participation in the clinical setting with hands-on experience with patients and equipment. Offered: Fall, second year.

Prerequisites: DMSP 2113 and DMSP 2111 and DMSP 2112

Corequisites: DMSP 2200, DMSP 2205

Lab hours: 24

DMSP 2202 - Introduction to Vascular Ultrasound (3 Credits)

This course is designed to provide the student with a basic introduction to the assessment of the vascular system. The student develops the skills necessary to perform basic diagnostic ultrasound studies for presentation to the physician. The student will review the physics of Doppler ultrasound, become familiar with and perform all abdominal Doppler exams, including, but not limited to, transplant organs and intraoperative guidance, and become familiar with peripheral vascular studies. Offered: Spring, second year.

Prerequisites: (DMSP 2201 and DMSP 2200) or DMSP 2118

Corequisites: DMSP 2203, DMSP 2204

Lecture hours: 2

Lab hours: 3

DMSP 2203 - Ultrasound in Review (3 Credits)

This is a comprehensive review course to prepare the student for taking the ultrasound examination(s) appropriate for the abdomen and/or obstetrics and gynecology specialty exams offered through the American Registry for Diagnostic Medical Sonography (ARDMS). The course will also prepare students and provide guidance for obtaining employment in the field of Diagnostic Medical Sonography. Offered: Spring, second year.

Prerequisites: (DMSP 2200 and DMSP 2201) or DMSP 2116

Corequisites: DMSP 2202, DMSP 2204

Lecture hours: 3

DMSP 2204 - Clinical Observations and Practicum III (3 Credits)

This course is an expansion of DMSP 2201, allowing students to gain confidence in their skills and the knowledge gained throughout the DMS program. Students will complete ultrasound studies from start to finish for presentation to the physician or radiologist. Offered: Spring, second year.

Prerequisites: (DMSP 2201 and DMSP 2200) or DMSP 2116

Corequisites: DMSP 2202, DMSP 2203

Lab hours: 24

DMSP 2205 - Physics in Review (1 Credit)

This course is a comprehensive review course designed to prepare the student for the Sonographic Principles and Instrumentation (SPI) exam offered through the American Registry of Diagnostic Medical Sonographers (ARDMS). Offered: Fall, second year.

Corequisites: DMSP 2200, DMSP 2201

Lecture hours: 1