

# Diagnostic Medical Sonography (DMS)

## DMS 1000 Orientation to Sonography ..... 3 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** Admission into the Diagnostic Medical Sonography Program.

**Corequisite:** DMS 1020 DMS 1030 DMS 1100.

This course will provide an overview of the field of diagnostic medical sonography, the associated professional organizations and the sonographer's legal/ethical duties and responsibilities. The course will also include sonographer safety issues, communication, patient sonographer interactions and patient care techniques. BILLABLE CONTACT HOURS: 3

## DMS 1010 Fundamentals of Sonography ..... 4 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** DMS 1000 DMS 1020 DMS 1030 and DMS 1100; each with a grade of 'C' or better.

**Corequisite:** DMS 1040 DMS 1100 DMS 1420.

This course is designed to provide the student with a foundation of understanding the human physiological processes as they relate to ultrasound imaging of the organs of the abdominal, urological, obstetrical, gynecological and superficial structures (thyroid, breast, testes). Sonographic imaging procedures, lab values and clinical symptoms will be correlated with the diagnostic exam. BILLABLE CONTACT HOURS: 4

## DMS 1020 Cross-Sectional Anatomy ..... 4 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** Admission into the Diagnostic Medical Sonography program or consent of instructor.

**Corequisite:** DMS 1000 DMS 1030 DMS 1100.

This course will present human cross-sectional anatomy relative to both the normal body structures and pathologic changes that will be demonstrated in multiple scan planes and directly associated with sonographic imaging. This is a lecture class that will utilize textbook material, sonographic terminology and sonograms to identify sectional anatomy of the abdomen, superficial structures, male and female pelvis and obstetrics. BILLABLE CONTACT HOURS: 4

## DMS 1030 Sonography Lab I ..... 2 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** Admission to the DMS program.

**Corequisite:** DMS 1000 DMS 1020 DMS 1100.

This lab course will introduce concepts and principles of sonographic imaging with emphasis on the application of instrumentation, basic scanning techniques and identification of cross sectional anatomy in the appropriate scan planes. BILLABLE CONTACT HOURS: 2

## DMS 1040 Sonography Lab II ..... 2 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** Admission to the DMS program.

**Corequisite:** DMS 1000 DMS 1020 DMS 1100.

This lab course will introduce scanning techniques and sonographic principles as they relate to producing a diagnostic exam. Emphasis is placed on proper transducer manipulation, the use of anatomical windows to produce quality images, following a prescribed protocol and writing a technical impression. Students will scan the abdomen, pelvis and small part structures. BILLABLE CONTACT HOURS: 2

## DMS 1050 Sonography Lab III ..... 1 Credit Hour

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

This lab course will provide the student with the opportunity to gain experience in advanced scanning skills in the performance of vascular studies and musculoskeletal exams. BILLABLE CONTACT HOURS: 1

## DMS 1100 Sonography Principles and Instrumentation I ..... 3 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** Admission into the Diagnostic Medical Sonography Program.

**Corequisite:** DMS 1000 DMS 1020 DMS 1030.

This course will provide the student with the fundamental principles of acoustical physics with a primary focus on wave propagation, interaction with tissue, instrumentation, transducer construction and application, and modes of operation including basic Doppler principles. Topics of discussion will also include artifacts, quality control and bio- effects. BILLABLE CONTACT HOURS: 3

## DMS 1110 Sonography Principles and Instrumentation II ..... 2 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

This course will provide the student with advanced acoustical physics principles including hemodynamics, diagnostic Doppler applications, quality control test validation and introduction to emerging sonographic technologies. Topics of discussion will include a review of SPI I in preparation for the Sonography Principles and Instrumentation registry exam. BILLABLE CONTACT HOURS: 2

## DMS 1200 OB Pathological Imaging ..... 3 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** DMS 1000 DMS 1010 DMS 1020 DMS 1030 DMS 1040 DMS 1100 DMS 1110 DMS 1300 DMS 1420 and DMS 2400; each with a grade of 'C' or better.

**Corequisite:** DMS 1040 DMS 1300 DMS 2400.

This course will provide the student with a comprehensive exploration of pathological processes specifically relating to obstetrical ultrasound imaging and procedures. The student will learn to assess total fetal well-being, to recognize fetal anomalies identified by ultrasound and to evaluate fetal measurements. Case studies will be presented. BILLABLE CONTACT HOURS: 3

**DMS 1220 GYN Pathological Imaging ..... 2 Credit Hours**

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

This course will provide the student with a comprehensive exploration of pathological processes specifically relating to gynecological ultrasound imaging and procedures. Gyn topics such as the post-menopausal uterus, endometrial disorders, pelvic masses, transvaginal imaging procedures and case studies will be presented. BILLABLE CONTACT HOURS: 2

**DMS 1300 Abdominal Pathological Imaging ..... 3 Credit Hours**

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** DMS 1010 DMS 1040 DMS 1110 and DMS 1420; each with a grade of 'C' or better.

**Corequisite:** DMS 2400.

This course is designed to provide the student with a comprehensive exploration of pathological processes that occur within the organs and major vessels of the upper abdomen and small parts as seen with diagnostic ultrasound imaging. Normal sonographic appearances will be presented and stressed versus sonographic appearances of pathological conditions. The student will apply knowledge gained in previous sonography courses of study to identify and describe normal versus abnormal findings. BILLABLE CONTACT HOURS: 3

**DMS 1420 Sonography Practicum I ..... 4 Credit Hours**

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** DMS 1000 DMS 1020 DMS 1030 and DMS 1100; each with a grade of 'C' or better.

**Corequisite:** DMS 1010 DMS 1040 DMS 1110.

Supervised clinical experiences will be provided in the application of basic sonographic scanning techniques that incorporate patient care, safe use of equipment, body mechanics and proper infectious control practices. This practicum will take place in an approved clinical education center and requires the achievement of proficiency evaluations of the student performance. BILLABLE CONTACT HOURS: 7

**DMS 2200 Advanced Sonography ..... 2 Credit Hours**

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** DMS 1000 DMS 1010 DMS 1020 DMS 1030 DMS 1040 DMS 1100 DMS 1110 DMS 1200 DMS 1220 DMS 1300 DMS 1420 DMS 2400 and DMS 2420; each with a grade of 'C' or better.

**Corequisite:** DMS 1050 DMS 2430.

This course provides concepts of advanced imaging techniques primarily musculoskeletal and peripheral vascular imaging. In addition, pediatric ultrasound imaging including neonatal neurosonography are presented. Preparation for the ARDMS specialty exam(s) will be emphasized. BILLABLE CONTACT HOURS: 2

**DMS 2400 Sonography Practicum II ..... 8 Credit Hours**

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** DMS 1000 DMS 1010 DMS 1020 DMS 1030 DMS 1040 DMS 1100 DMS 1110 and DMS 1420; each with a grade of 'C' or better.

**Corequisite:** DMS 1300

Supervised clinical experience will be provided to strengthen primary skills of sonographic scanning techniques and patient care. Students will have the opportunity to practice to achieve competency in a variety of cases that support the general sonography curriculum. This practicum will take place in an approved clinical education center and requires the achievement of proficiency evaluations of the student's performance. BILLABLE CONTACT HOURS: 11

**DMS 2420 Sonography Practicum III ..... 8 Credit Hours**

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

**Prerequisite:** DMS 1000 DMS 1010 DMS 1020 DMS 1030 DMS 1040 DMS 1100 DMS 1110 DMS 1300 DMS 1420 and DMS 2400; each with a grade of 'C' or better.

**Corequisite:** DMS 1200 DMS 1220.

Supervised experience will be provided as the student continues to refine and broaden technical skills of sonographic scanning techniques, evaluating image quality and formulating a technical impression. This practicum will take place in an approved clinical education center and requires the achievement of proficiency evaluations of the student's performance. BILLABLE CONTACT HOURS: 11

**DMS 2430 Sonography Practicum IV ..... 4 Credit Hours**

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement in ESL 2520.

The student will continue to gain proficiency in the performance of diagnostic ultrasound exams by scanning complete studies. Supervised advanced clinical experiences will be provided in an approved clinical education center where the student will participate in a variety of advanced scanning procedures such as amniocentesis, cyst drainage, biopsy, rotator cuff, transplant exams and when accessible, the student will perform advanced studies such as vascular exams and neonatal neurosonography. BILLABLE CONTACT HOURS: 7