

DIAGNOSTIC MEDICAL SONOGRAPHY (DMS)

DMS-100 Fundamentals of Diagnostic Medical Sonography **2 Units (LAB 48-54, LEC 16-18)**

This is an introductory course for students accepted into the Diagnostic Medical Sonography program. The student will learn basic scanning skills, transducers and monitor orientation using ultrasound machines. The Society of Diagnostic Medical Sonographers Code of ethics and Clinical Practice Standards will be discussed along with sonography terms and scanning planes. Students will learn to identify and image anatomy using ultrasound machines.

Prerequisite: Acceptance into the Diagnostic Medical Sonography Program.

Transfers to CSU only

DMS-101 Pathophysiology **3 Units (LEC 48-54)**

This course examines the general principles of the disease process of organs and systems of the human anatomy. It includes chronic and acute diseases of the respiratory, musculoskeletal and gastrointestinal tract diseases; diseases of the genitourinary systems and reproductive organs.

Prerequisite: Acceptance into the Diagnostic Medical Sonography Program.

Transfers to CSU only

DMS-102 Sonography Medical Ethics **3 Units (LEC 48-54)**

This course introduces the DMS student to the laws related to patient rights, intentional torts, negligence, and malpractice litigation. The course will alert the students of their rights, duties, and legal responsibilities within the context of their function as a member of the allied health care team.

Prerequisite: Acceptance into the Diagnostic Medical Sonography Program.

Transfers to CSU only

DMS-110 Sectional Imaging **2 Units (LEC 32-36)**

This course instructs students to recognize cross sectional anatomy and understand the relationship of anatomical structures to each other on computerized tomography, magnetic resonance, and ultrasound imaging exams. Students will be instructed on how to recognize and correlate normal anatomy and abnormal pathology as seen on multiple imaging modalities. This correlation is important for students to understand when reviewing prior imaging exams. Students will identify anatomy of the brain, thorax, abdomen, pelvis, and vascular system.

Prerequisite: DMS-100 with a grade of C or better).

Transfers to CSU only

DMS-120 General Sonography Scanning Lab (formerly Abdomen Scanning)

1.5 Unit (LAB 72-81)

This course includes patient care protocols, interpretation of clinical laboratory tests, related clinical signs and symptoms, normal and abnormal sonographic appearances, and gray-scale pattern differences are discussed. Imaging practicals include exams of the abdomen, breast, thyroid, and testicular anatomy. Lab practicals are performed on live volunteers or ultrasound simulator for abdominal and thyroid. Lab practicals for breast and testicular are performed on ultrasound phantoms.

Prerequisite: DMS-100 (with a grade of C or better).

Transfers to CSU only

DMS-122 Ultrasound Pathology I **3 Units (LEC 48-54)**

This course will include abnormal sonographic and doppler patterns of disease processes, pathology and pathophysiology of the abdomen, breast, thyroid, prostate and scrotum. Students will recognize, identify and appropriately document pathology of the abdomen and superficial structures.

Prerequisite: DMS-100 (with a grade of C or better) or Sonography Program Graduate or RDMS- Registered Diagnostic Medical Sonographer through ARDMS or RDCS- Registered Diagnostic Cardiac Sonographer through ARDMS or RVT- Registered Vascular Technologist through ARDMS or RCS- Registered Cardiac Sonographer through CCI or CVS- Certified Vascular Sonographer through CCI.

Transfers to CSU only

DMS-130 Obstetric/Gynecology Scanning **1.5 Unit (LAB 72-81)**

This course includes instruction on Obstetric/Gynecology anatomy, pathology, and sonography scanning techniques. Interpretation of clinical laboratory tests, related clinical signs and symptoms, and normal and abnormal sonographic patterns will be discussed. Demonstrations on basic scanning techniques and protocols will be included.

Prerequisite: DMS-120 (with a grade of C or better).

Transfers to CSU only

DMS-132 Ultrasound Pathology II **3 Units (LEC 48-54)**

This course examines normal and abnormal sonographic patterns of pelvic and obstetric disease processes, pathology, and pathophysiology. Students will recognize, identify, and appropriately document pathology of the female pelvis, gravid uterus, and fetus. Case studies will be evaluated and discussed.

Prerequisite: DMS-122 (with a grade of C or better) or Sonography Program Graduate. or RDMS license-Registered Diagnostic Medical Sonographer through ARDMS or RVT license-Registered Vascular Technologist through ARDMS or CVT license- Certified Vascular Technologist through CCI or RDCS license- Registered Diagnostic Cardiac Sonographer through ARDMS or RCS- Registered Cardiac Sonographer license through CCI.

Transfers to CSU only

DMS-140 Introduction to Vascular Imaging
2 Units (LEC 32-36)

This course is to provide the DMS student with an introduction to vascular scanning and evaluating hemodynamics or blood flow within the body; specifically the carotid artery, and the arteries and veins of the extremities. The course will introduce duplex imaging in the normal vessel and the expected outcomes when scanning a diseased or stenotic vessel. The student will learn to correlate related diagnostic imaging procedures (angiogram, MRA and CT) with the sonographic appearances.

Prerequisite: DMS-120 (with a grade of C or better) or Sonography Program Graduate or RDMS license-Registered Diagnostic Medical Sonographer through ARDMS or RVT license- Registered Vascular Technologist through ARDMS or RDCS license- Registered Diagnostic Cardiac Sonographer through ARDMS or CVT license- Certified Vascular Technologist through CCI or RCS license- Registered Cardiac Sonographer through CCI.

Transfers to CSU only

DMS-503 Patient Care Techniques for Imaging Professionals (formerly DMS-103)
3 Units (LAB 48-54, LEC 32-36)

This course is a lecture with an incorporated lab class designed to teach the sonography, or imaging student, basic patient care techniques including the responsibilities and relationships of various allied health departments in a health care setting. Discussions and hands-on skills will include: aseptic and surgical techniques, universal precautions, emergency conditions and procedures, transferring patients, vital signs, medical emergencies, imaging procedures, medical ethics, communication, body mechanics, and infection control used by radiology personnel in working with patients. Professional communication and ethical legal issues in health care are introduced. (formerly DMS-103)

Prerequisite: Acceptance into the Diagnostic Medical Sonography Program.

Transfers to CSU only

DMS-504 Clinical Observation (formerly DMS-104)
2 Units (LAB 96-108)

This course begins as a clinical externship where students observe staff Sonographers in the clinical environment. Within the course, there is migration into an internship role which provides the student an opportunity to gain hands-on experience under the guidance of a trained preceptor in a sonography department at an affiliated hospital or medical center. The student will observe the functions, procedures, and protocols of an ultrasound department. This clinical course will also include reviewing physician orders and comparing prior imaging exams and lab results, exam protocols, and observing a sonographer complete the requested examination or completing the requested examination with sonographer assistance. The student will demonstrate proper sterile technique and universal precautions. The student will learn the proper functions of the sonography equipment used in the clinical training site. (formerly DMS-104)

Prerequisite: DMS-100 (with a grade of C or better).

Transfers to CSU only

DMS-514 Clinical Experience I (formerly DMS-114)
5 Units (LAB 240-270)

This course is a continued clinical externship where students observe staff Sonographers in the clinical environment. Within the course, there is a continued migration, from the prior observation course, into an internship role which provides the student an opportunity to gain more hands-on experience completing ultrasound exams with assistance under the guidance of a trained preceptor in a sonography department at an affiliated hospital or medical center. The student will observe the functions, procedures, and protocols of an ultrasound department. This clinical course will also include reviewing physician orders and comparing prior imaging exams and lab results, exam protocols, and observing a sonographer complete the requested examination or completing the requested examination with sonographer assistance. The student will demonstrate proper sterile technique and universal precautions. The student will learn the proper functions of the sonography equipment used in the clinical training site. (formerly DMS-114)

Prerequisite: DMS-504 (with a grade of C or better).

Transfers to CSU only

DMS-524 Clinical Experience II (formerly DMS-124)
10 Units (LAB 480-540)

This course is the third semester, after a prior summer semester, of a clinical externship/internship where students continue to observe staff Sonographers in the clinical environment, scan with assistance, and begin to complete ultrasound exams unassisted with preceptor review of the final exam images. Clinical training provides the student with an opportunity to gain hands-on experience under the guidance of a trained preceptor in a sonography department at an affiliated hospital or medical center. The student will learn through observation, scanning with assistance, and scanning unassisted: the functions, procedures, and protocols of an ultrasound department. This clinical course will also include reviewing physician orders, comparing prior imaging exams, lab results, exam protocols, observing a sonographer complete an ultrasound examination, completing the requested examination with sonographer assistance, or completing an ultrasound examination unassisted. The student will demonstrate proper sterile technique, universal precautions, and patient centered care. (formerly DMS-124)

Prerequisite: DMS-514 (with a grade of C or better).

Transfers to CSU only

DMS-525 Ultrasound Physics and Instrumentation I (formerly DMS-125)
2 Units (LEC 32-36)

This is the first of two sequential courses designed to teach Ultrasound Physics and Instrumentation. The focus of Ultrasound Physics and Instrumentation I is the basic mathematics used in the physics of sound, elementary principles of ultrasound physics and instrumentation, the propagation of ultrasound through tissue, Ultrasound transducers, pulse echo instruments and the principles of pulse echo imaging. (formerly DMS-125)

Prerequisite: Acceptance into the Diagnostic Medical Sonography Program.

Transfers to CSU only

DMS-534 Clinical Experience III (formerly DMS-136)
10 Units (LAB 480-540)

This course is offered as a continuation of advanced on the job training in a sonography department of an affiliated hospital or medical center. The student will demonstrate the ability to perform sonographic examinations of the abdomen, superficial structures, pelvic, and obstetric exams according to protocol guidelines established by the program and the clinical affiliate hospital or medical center. This clinical course will also include reviewing physician orders, comparing prior imaging exams, lab results, and exam protocols. Students begin to complete a majority of ultrasound exams as unassisted, with preceptor review of the final exam images. The final objective is to develop skills equal to an entry-level Sonographer. The student will demonstrate proper sterile technique, universal precautions, and patient centered care. (formerly DMS-136)

Prerequisite: DMS-524 (with a grade of C or better).

Transfers to CSU only

DMS-535 Ultrasound Physics and Instrumentation II (formerly DMS-135)
2 Units (LEC 32-36)

This course is the second of two physics courses designed to teach Ultrasound Physics and Instrumentation. The focus of this course is image storage and display, hemodynamics, doppler, color flow and color power imaging, artifacts found in ultrasound, quality assurance, and the bioeffects and safety of ultrasound. (formerly DMS-135)

Prerequisite: DMS-525 (with a grade of C or better).

Transfers to CSU only

DMS-538 Ultrasound Seminar (formerly DMS-134)
2 Units (LEC 32-36)

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)

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

Transfers to CSU only

DMS-699 Special Projects: Diagnostic Medical Sonography (formerly DMS-299)
1-3 Unit (IS -)

Students with previous course work in the program may do special projects that involve research and special study. The actual nature of the project must be determined in consultation with the supervising instructor. (formerly DMS-299)

Prerequisite: Two Diagnostic Medical Sonography classes must be completed prior to enrollment; a Special Projects contract must be completed with the instructor prior to enrollment.

Transfers to CSU only