DIAGNOSTIC MEDICAL SONOGRAPHER (DMS)

DMS 109 (7 credit hours)
Sonography I
Provides a study of diagnostic foundations of clinical medicine pertinent to abdominal, superficial structures, non-vascular extremity, male pelvis, neonatal head/spine, and non-cardiac chest sonography. Includes obtaining the clinical history, interpretation of clinical laboratory test, the pathophysiologic effects of disease, related clinical signs and symptoms, sectional anatomy, and normal/abnormal sonographic patterns. Includes a laboratory component for the practice and application of normal sonographic patterns, basic scanning techniques and protocol. Lecture: 5 credits (75 contact hours), Laboratory: 2 credits (90 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 111 (7 credit hours)
Abdominal Sonography
Provides a study of diagnostic foundations of clinical medicine pertinent to abdominal, superficial, non-vascular extremity, male pelvis, neonatal head/spine, and non-cardiac chest sonography. Includes obtaining the clinical history, interpretation of clinical laboratory test, the pathophysiologic effects of disease, related clinical signs and symptoms, sectional anatomy, and normal/abnormal sonographic patterns. Includes a laboratory component for the practice and application of normal sonographic patterns, basic scanning techniques and protocol. Lecture: 5 credits (75 contact hours) Lab: 2 credits (90 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 115 (6 credit hours)
Sonography II
Covers the study of the clinical applications within the sonographic specialties of obstetrics, gynecology, and neuro structures. Includes related clinical symptoms and laboratory tests, pathophysiologic effects of disease and anomalies, and normal/abnormal sonographic patterns. Includes basic scanning techniques and protocol. Designed for the student to utilize the laboratory facilities to demonstrate clinical applications of theoretical principles and concepts. Lecture: 4 credits (60 contact hours). Laboratory: 2 credits (90 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 116 (6 credit hours)
OB/GYN Sonography
Covers the study of the clinical applications within the sonographic specialties of obstetrics and gynecology. Includes related clinical symptoms and laboratory test, pathophysiologic effects of disease and anomalies, and normal/abnormal sonographic patterns. Includes basic scanning techniques and protocol. Designed for the student to utilize the laboratory facilities to demonstrate clinical applications of theoretical principles and concepts. Lecture: 4 credits (60 contact hours). Laboratory: 2 credits (90 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography Program; NAA 100 or equivalent; CPR certification.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 117 (7 credit hours)
Vascular Sonography I
Provides a study of diagnostic foundations of clinical medicine pertinent to vascular sonography. Includes obtaining the clinical history, interpretation of clinical laboratory test, the pathophysiologic effects of disease, related clinical signs and symptoms, sectional/vascular anatomy, and normal/abnormal sonographic patterns. Includes a laboratory component for the practice and application of normal sonographic patterns, basic scanning techniques and protocol. Lecture: 5 credits (75 contact hours). Laboratory: 2 credits (90 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography program; Computer Literacy; NAA 100 or equivalent; CPR certification.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 118 (6 credit hours)
Vascular Sonography II
Covers the study of the clinical applications of peripheral venous, peripheral arterial and abdominal vasculature within the sonographic vascular concentration. Includes related clinical symptoms and laboratory test, pathophysiologic effects of disease and anomalies, and normal/abnormal sonographic patterns. Includes basic scanning techniques and protocol. Designed for the student to utilize the laboratory facilities to demonstrate clinical applications of theoretical principles and concepts. Lecture: 4 credits (60 contact hours). Laboratory: 2 credits (90 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography program; Computer Literacy; NAA 100 or equivalent; CPR certification.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 119 (6 credit hours)
Ultrasonic Physics and Instrumentation
Consists of lectures covering the areas of ultrasonic propagation principles, transducer parameters, interactive properties of ultrasound with human tissue, possible biologic effects, basic equipment types, instrumentation and quality control procedures, hemodynamics and basic Doppler. Lecture: 6 credits (90 contact hours).
Pre-requisite: Consent of Program Coordinator.
Attributes: Digital Literacy, Technical
Components: LEC: Lecture

DMS 126 (3-4 credit hours)
Clinical Education I
Includes observation of all clinical duties performed in the ultrasound department. Covers basic instruction and scanning experience in abdomen, superficial structures, non-vascular extremity, male pelvis, neonatal head/spine, non-cardiac chest, embryo/fetus, gravid and non-gravid pelvic structures with program-specific basic competencies to be performed. Includes experience with assisting in sonographic guided procedures and appropriate infection control policies and sterile technique procedures. Clinical: 3 - 4 credits (180 - 240 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR Certification.
Attributes: Technical
Components: CLN: Clinical

DMS 136 (4 credit hours)
Vascular Clinical Education I
Includes observation and practice of all clinical duties performed in the vascular lab with basic instruction and scanning experience under the supervision of a credentialed Vascular Sonographer. Clinical: 4.0 credits (240 contact hours).
Pre-requisite: DMS 117 with minimum "C" grade.
Attributes: Technical
Components: CLN: Clinical

DMS 146 (12 credit hours)
Cardiac Techniques I
Provides a study of normal cardiovascular anatomy and physiology including hemodynamic concepts, electrophysiology, and the conduction system. Includes patient care and medical and legal issues of sonographers. Presents pathophysiologic conditions, signs and symptoms of valvular heart disease, ischemic cardiac disease, and infective endocarditis, and prosthetic heart valves and discussion of the various cardiac testing procedures used in diagnosis. Includes a laboratory component to develop basic skills in 2D, M-mode, Doppler scanning techniques and standard measurements. Lecture: 8 credits (120 contact hours). Laboratory: 4 credits (180 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.
Co-requisite: DMS 147.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 147 (1 credit hours)
Cardiac Clinical Education I
Introduces the student to the clinical environment including the function and organization of the echocardiography department and the various testing procedures utilized in the diagnosis of cardiac diseases. Presents opportunities to observe and model the appropriate professional behaviors and communication expected in the clinical setting and initiates the performance of basic scan skills under the supervision of appropriately credentialed cardiac sonographers. Clinical: 1 credit (60 contact hours).
Pre-requisite: Admission to the Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.
Co-requisite: DMS 146.
Attributes: Technical
Components: CLN: Clinical

DMS 204 (2 credit hours)
Online Vascular Review
Provides a review of vascular sonography to prepare the student for the ARDMS certification examination. Includes activities and quizzes related to cerbrovascular, intracranial, peripheral venous, peripheral arterial and abdominal vascular sonography. Lecture: 2.0 credits (30 contact hours).
Pre-requisite: Consent of Program Coordinator.
Attributes: Technical
Components: LEC: Lecture

DMS 206 (3 credit hours)
Online Vascular Sonography III
Covers the various test, miscellaneous conditions encountered in vascular sonography. Emphasizes the importance of quality measurements and safety practices. Lecture: 3.0 credits (45 contact hours).
Pre-requisite: Admission to Diagnostic Medical Sonography Program; Computer Literacy; NAA 100 or equivalent; CPR certification.
Attributes: Technical
Components: LEC: Lecture

DMS 207 (7 credit hours)
Cardiac Techniques II
Presents content on additional cardiac pathologies including acquired and congenital heart diseases. Covers the relationship of echocardiography to patient history and physical examination, abstracting the clinical chart, indications for exam, and differential diagnoses. Discusses cardiovascular pharmacology, their potential effects on echocardiographic findings, and provocative agents and maneuvers. Includes a laboratory component to further develop scan skills and practice more advanced evaluations of Color Flow, Pulsed and Continuous wave Doppler findings, valvular stenosis severity, ventricular function, and abnormal cardiovascular hemodynamics and flow patterns and correlating Doppler findings. Lecture: 4 credits (60 contact hours). Laboratory: 3 credits (135 contact hours).
Pre-requisite: DMS 146 with a minimum "C" grade or Consent of Program Coordinator.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 216 (3 credit hours)
Cardiac Techniques III
Presents content on contrast, 3D echocardiography, transesophageal echocardiography (TEE), stress echocardiography, Intensive Care Unit patient, and operative/perioperative applications. Covers heart transplant, emergency and echo-guided procedures and effects of systemic diseases on the heart. Enhance with opportunity for hands-on practice with 3D and strain echocardiographic advanced scanning techniques. Lecture: 3 credits (45 contact hours).
Pre-requisite: DMS 207 with a minimum "C" grade or Consent of Program Coordinator.
Attributes: Technical
Components: LEC: Lecture

DMS 218 (2 credit hours)
Abdominal Review
Provides a review of abdominal sonography to prepare the student for the related registry. Includes obtaining a clinical history, interpretation of clinical laboratory tests, pathologic basis for disease, related clinical signs and symptoms, sectional anatomy, and normal/abnormal sonographic patterns. Lecture: 2 credits (30 contact hours).
Pre-requisite: DMS 109, or DMS 111 with a minimum "C" grade, or Consent of Program Coordinator.
Attributes: Technical
Components: LEC: Lecture

DMS 219 (2 credit hours)
OB/GYN Review
Provides a review of related clinical signs and symptoms, laboratory tests, and normal/abnormal sonographic patterns in preparation for the related Ob/Gyn registry. Lecture: 2 credits (30 contact hours).
Pre-requisite: DMS 115 or DMS 116 with a minimum "C" grade, or Consent of Program Coordinator.
Attributes: Technical
Components: LEC: Lecture

DMS 230 (5-8 credit hours)
Clinical Education II
Includes interaction in all clinical duties performed in all ultrasound departments. Covers abdomen, superficial structures, non-cardiac chest, embryo/fetus, and the gravid and non-gravid pelvic structures with performance of basic and advanced competencies to be performed. Clinical: 5 - 8 credits (300 - 480 contact hours).
Pre-requisite: DMS 126 with minimum "C" grade.
Attributes: Technical
Components: CLN: Clinical

DMS 236 (8 credit hours)
Vascular Clinical Education II
Includes experience in clinical applications of cerebrovascular, intracranial, peripheral arterial, peripheral venous, and abdominal vascular sonographic examinations. Requires the performance of competencies with the rate of progress dependent upon the student's ability to comprehend and perform assignments. Clinical: 8.0 credits (480 contact hours).
Pre-requisite: DMS 136 with minimum "C" grade.
Attributes: Technical
Components: CLN: Clinical

DMS 237 (5 credit hours)
Vascular Clinical Education III
Provides a more active clinical role in assisting the practicing vascular Sonographer and performing sonographic duties under direct supervision. Requires the performance of competencies with the rate of progress dependent upon the student's ability to comprehend and perform assignments. Clinical: 5.0 credits (300 contact hours).
Pre-requisite: Minimum "C" grade in DMS 136 and DMS 236.
Attributes: Technical
Components: CLN: Clinical

DMS 240 (5-8 credit hours)
Clinical Education III
Continues the clinical experience by student assuming a more active role in assisting the practicing sonographer and performing sonographic duties under direct supervision with the rate of progress dependent upon the student's ability to comprehend and perform assignments. Clinical: 5 - 8 credits (300 - 480 contact hours).
Pre-requisite: DMS 230 with Minimum "C" grade.
Attributes: Technical
Components: CLN: Clinical

DMS 241 (2-6 credit hours)
Cardiac Clinical Education II
Includes observation of all clinical duties in the echocardiographic department including routine, stress, transesophageal echocardiography (TEE), and 3D echocardiography. Emphasizes basic clinical scanning experience under the supervision of a credentialed cardiac sonographer. Clinical: 2-6 credits (120-360 contact hours)
Pre-requisite: DMS 147 or Consent of Program Coordinator.
Co-requisite: DMS 207.
Attributes: Technical
Components: CLN: Clinical

DMS 243 (2-6 credit hours)
Cardiac Clinical Education III
Requires progressive clinical experience with student assuming a more active role in assisting the supervising cardiac sonographer. Emphasizes increased participation in performance of the complete adult echo examination including scanning competencies and participation in non-routine procedures including transesophageal echocardiography (TEE) and stress echocardiographic studies. Clinical: 2-6 credits (120-360 contact hours).
Pre-requisite: DMS 241 with a minimum "C" grade or Consent of Program Coordinator.
Attributes: Technical
Components: CLN: Clinical

DMS 246 (1 credit hours)
Cardiac Review
Provides review of Adult Echocardiography material and practice with registry-formatted testing in preparation for challenging the national certifying board examination. Lecture: 1 credit (15 contact hours).
Pre-requisite: DMS 207 with minimum "C" grade or Consent of Program Coordinator.
Attributes: Technical
Components: LEC: Lecture

DMS 249 (8 credit hours)
Cardiac Clinical Education IV
Requires entry-level or above proficiency in scanning skills and knowledge in adult echocardiography. Introduces echocardiography of the pediatric patient and use of advanced techniques such as contrast, strain, and 3D echocardiography. Compares current with previous scans and tailoring the exam as indicated by findings encountered during the examination. Clinical: 8 credits (480 contact hours).
Pre-requisite: DMS 248 with minimum "C" grade or Consent of Program Coordinator.
Co-requisite: DMS 216.
Attributes: Technical
Components: CLN: Clinical

DMS 255 (6 credit hours)
Vascular Technology
Presents normal/abnormal sectional anatomy, hemodynamics, patient assessment and diagnostic testing related to vascular technology. Includes applications of pathophysiologic basis, clinical signs and symptoms and typical findings related to the peripheral vascular system. Includes therapeutic interventions, intraoperative monitoring and the use of contrast agents. Covers vascular physics including blood flow characteristics and pressure/flow/velocity relationships. Lecture: 5 credits (75 contact hours). Laboratory: 1 credit (45 contact hours).
Pre-requisite: Minimum "C" grade in (DMS 119 and DMS 240) or Consent of Program Coordinator.
Attributes: Technical
Components: LAB: Laboratory, LEC: Lecture

DMS 260 (6 credit hours)
Vascular Clinical Education
Provides clinical experience by student actively assisting and performing vascular procedures under direct supervision of a Vascular Technologist. Completes competencies including extracranial cerebrovascular, aortoiliac duplex, ankle and brachial pressures, lower extremity arterial/venous duplex, lower extremity venous insufficiency testing, and upper extremity venous duplex. Become proficient in the technique of intracranial cerebrovascular, upper/lower extremity and digital arterial physiologic testing, upper extremity arterial duplex, palmar arch, lower extremity exercise testing, vessel mapping and visceral vascular. Clinical: 6 credits (360 contact hours).
Pre-requisite: Minimum "C" grade in (DMS 119 and DMS 240) or consent of Program Coordinator.
Attributes: Technical
Components: CLN: Clinical