DMS-DIAGNOSTIC MED SONOGRAPHY

DMS 100. Introduction to Clinical Practicum
1 Credit (1)
Introduction to working in the medical environment. Includes preparation for clinical internship and observation hours in the ultrasound department. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 101. Introduction Sonography/Patient Care
2 Credits (2)
Introduction to the careers in sonography, terminology, medical ethics, scanning planes, applications of ultrasound, professional standards and patient care.

Learning Outcomes

1. Students will describe essential functions of the sonographer in the health care setting.
2. Students will distinguish key patient care differences based on patient demographics.
3. Students will develop and apply professional ethics in line with industry standards.

DMS 105. Introduction to Clinical Practicum II
1 Credit (1P)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under direct supervision.

Learning Outcomes

1. Demonstrate proficiency in patient care skills.
2. Recognize sonographic anatomy.
3. Assist with basic sonographic procedures in the clinical setting.
4. Describe aspects of the clinical experience.

DMS 116. Vascular Technology I
2 Credits (2)
Review of basic ultrasound physics and principles, peripheral vascular anatomy, hemodynamics, Doppler evaluation, peripheral vascular scanning techniques, physiologic testing and the carotid arteries and the peripheral vascular system. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 116 L. Vascular Technology I Lab
1 Credit (2P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the carotid arteries and peripheral vasculature utilizing real-time sonographic equipment including Doppler. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 130. Pelvic Sonography
2 Credits (2)
Includes the anatomy, sectional anatomy and normal physiology of the pelvic structures; including the uterus, ovaries, prostate, pelvic muscles, lower GI, appendix and vessels as well as scanning techniques, sonographic appearance and Doppler evaluation of the pelvis. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Students will describe the relational anatomy of the pelvic organs.
2. Students will distinguish the sonographic appearance of male and female pelvic anatomy.
3. Students will discuss the physiology of pelvic organ systems.
4. Students will correlate the physiologic cycles of pelvic organs with the appropriate sonographic appearances.

DMS 130 L. Pelvic Sonography Lab
1 Credit (2P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the pelvic structures including the uterus, ovaries, prostate, lower gastrointestinal system, appendix and pelvic muscles utilizing real-time sonographic equipment including Doppler. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 140. Abdominal Sonography
3 Credits (3)
Includes the anatomy, sectional anatomy and normal physiology of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys, adrenals, and spleen as well as scanning techniques, sonographic appearance and Doppler evaluation of the deep abdominal organs. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 140 L. Abdominal Sonography Lab
1 Credit (4P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys and spleen utilizing real-time sonographic equipment including Doppler. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 150. Sonographic Principles and Instrumentation I
1 Credit (1)
Includes the fundamental properties and mathematical relationships between variables of wave parameters, acoustic variables, attenuation, pulsed wave operation, transducers, system operation, Doppler, and artifacts utilizing real-time sonographic equipment. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 160. 1st Trimester Obstetric Sonography
1 Credit (1)
Includes the embryology, anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 1st trimester fetus, placenta, uterus and adnexa as well as scanning techniques according to recognized protocols. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 165. 2nd/3rd Trimester Obstetric Sonography
1 Credit (1)
Includes the anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 2nd and 3rd trimester fetus, placenta, uterus, and adnexa as well as scanning techniques according to recognized protocols. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 170. Clinical Practicum I
1 Credit (8-10P)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance

and performance of patient care and sonographic duties under direct supervision. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Develop professional skills necessary in the clinical environment.
2. Perform basic sonographic procedures with minimal assistance from preceptors.
3. Assist with complex/advanced sonographic procedures under the guidance of preceptors.

DMS 180. Clinical Practicum II
4 Credits (4)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the beginner level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continue observation, assistance and performance of patient care and sonographic duties under direct supervision. Restricted to: DMS majors. Restricted to Community Colleges campuses only.
Prerequisite: DMS 170.

Learning Outcomes

1. Students will demonstrate general and sonographic knowledge to function as a member of the healthcare team.
2. Students will identify and interpret data from patient charts.
3. Students will perform a broad range of general sonographic examinations with minimal to moderate assistance.
4. Students will demonstrate effective oral and written communication skills.

DMS 201. Applied Sonographic Procedures
1 Credit (8P)
Advances scanning skills, system optimization, anatomic recognition of abdominal and pelvic structures utilizing real-time sonographic equipment including Doppler. Includes sonographic evaluation of the first trimester pregnancy and normal fetus. Restricted to: DMS majors. Restricted to Las Cruces campus only.

DMS 216. Vascular Technology II
2 Credits (2)
Includes the pathology and pathophysiology of the vascular system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the carotid arteries, deep and peripheral vascular systems. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 226. Sonographic Case Studies I
1 Credit (1)
Includes integration of didactic knowledge, clinical presentation, laboratory values, sonographic appearance and related medical imaging of a variety of pathological conditions through a variety of case analysis and presentations. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 227. Sonographic Case Studies II
1 Credit (1)
Continuation of DMS 226, integration of didactic knowledge, clinical presentation, laboratory values, sonographic appearance and related medical imaging of a variety of pathological conditions through a variety of case analysis and presentations. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 230. Gynecologic Pathology
2 Credits (2)
Includes the pathology and pathophysiology of the female reproductive system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the uterus, ovaries, and adnexa. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 240. Abdominal Pathology I
2 Credits (2)
Includes the pathology and pathophysiology of abdominal structures of the prevertebral vessels, liver, biliary system, pancreas, spleen and gastrointestinal system; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 245. Abdominal Pathology II
2 Credits (2)
Includes the pathology and pathophysiology of abdominal structures of the genitourinary system, spleen, retroperitoneum, adrenal glands, abdominal wall and prostate; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 248. Pediatric Sonography
2 Credits (2)
Includes the anatomy of the brain, skull, spine, hips, and normal developmental changes as well as pathology and pathophysiology of specific conditions that affect the premature infant, newborn and pediatric population across a variety of body systems. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 250. Sonographic Principles and Instrumentation II
3 Credits (3)
Includes properties of sound and its use in diagnostic imaging, artifacts, system operation, Doppler, basic hemodynamics, image optimization, bio effects, quality assurance, and new technologies in ultrasound imaging. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 260. High Risk Obstetric Sonography
3 Credits (3)
Includes congenital malformations of the developing fetus, high risk pregnancies, multiple gestation, maternal conditions and invasive procedures. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 270. Clinical Practicum III
3 Credits (32P)
Continued development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at an intermediate level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Consistently demonstrate professional skills and etiquette in the clinical setting.
2. Perform basic and advanced sonographic procedures with minimal assistance from preceptors.
3. Perform complex sonographic procedures with guidance from preceptors.
4. Analyze clinical experiences to broaden patient care skills.

DMS 280. Clinical Practicum IV
5 Credits (20P)
Application of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at a proficient level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 290. Small Parts & Superficial Structures
2 Credits (2)
Includes anatomy, pathology and pathophysiology, protocol development, scanning techniques, recognition of anatomical structures and the normal and pathological ultrasound appearance of the breast, thyroid, neck, scrotum, non-cardiac chest and musculoskeletal ultrasound. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 290 L. Small Parts & Superficial Structures Lab
1 Credit (3P)
Includes scanning of various small part exams and phantoms, including breast, thyroid, scrotal, non-cardiac chest, and musculoskeletal ultrasound exams. Includes targeted scanning exercises to enhance sonographic skills.

Learning Outcomes

1. Demonstrate proficiency in scanning breast and testicular phantoms.
2. Recognize and document sonographic anatomy of the thyroid and neck structures.
3. Demonstrate understanding of limited musculoskeletal sonographic examinations.
4. Complete targeted scan exercises in a variety of body systems.

DMS 291. Registry Preparation: OB/GYN
1 Credit (1)
Registry preparation mock examinations over materials covered in Obstetric and Gynecological ultrasound. Students must pass this course with a 74% or better OR pass national certification in OB/GYN Sonography. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 292. Registry Preparation: Abdomen
1 Credit (1)
Registry preparation mock examinations over materials covered in abdominal ultrasound including small parts and superficial structures. Students must pass this course with a 74% or better OR pass ARDMS national certification exam in Abdominal Sonography. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

DMS 293. Registry Preparation: Vascular
1 Credit (1)
Registry preparation mock examinations over materials covered in vascular ultrasound. Students must pass this course with a 74% or better OR pass national certification in Vascular Technology. Restricted to: DMS majors. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Identify and describe vascular anatomy.
2. Recognize vascular pathology based on sonographic images.
3. Describe hemodynamic changes associated with vascular pathology.
4. Demonstrate understanding of patient care, exam protocols, and department procedures.

DMS 294. Musculoskeletal Sonography I
3 Credits (3)
Includes the anatomy, sectional anatomy, and normal physiology, and pathology of musculoskeletal joints; including the shoulder, elbow, wrist, and hand, as well as the sonographic appearance and protocols for scanning these exams.

Learning Outcomes

1. Students will describe the normal and pathological anatomy of upper extremity musculoskeletal joints.
2. Students will distinguish the sonographic appearance of upper extremity musculoskeletal structures.
3. Students will correlate clinical presentation of symptoms with upper extremity musculoskeletal pathologies.
4. Students will produce diagnostic-quality sonographic images of upper extremity musculoskeletal structures.

DMS 295. Musculoskeletal Sonography II
3 Credits (3)
Includes the anatomy, sectional anatomy, and normal physiology, and pathology of musculoskeletal joints; including the hip, knee, calf, ankle, and foot, as well as the sonographic appearance and protocols for scanning these exams.

Learning Outcomes

1. Students will describe the normal and pathological anatomy of lower extremity musculoskeletal joints.
2. Students will distinguish the sonographic appearance of lower extremity musculoskeletal structures.
3. Students will correlate clinical presentation of symptoms with lower extremity musculoskeletal pathologies.
4. Students will produce diagnostic-quality sonographic images of lower extremity musculoskeletal structures.