DIAGNOSTIC CARDIAC SONOGRAPHY (DCS)

DCS 101 - Electrocardiography I (2 Credits)
1.5 lecture, 1 lab, 2.5 total contact hours
Provides instruction and practice in the performance and comprehensive interpretation of rhythm ECGs. Covers related electrophysiology. Includes instruction in holter monitoring. Prerequisite: BIO 135 or (BIO 260 and BIO 261) with a grade of C or better.
Typically offered: Fall

DCS 102 - Electrocardiography II (2 Credits)
1.5 lecture, 1 lab, 2.5 total contact hours
Provides instruction and practice in the performance and comprehensive interpretation of 12 lead ECGs. Covers related electrophysiology. Includes instruction in maximal stress testing. Prerequisite: DCS 101 with a grade of C or better.
Typically offered: Spring

DCS 105 - Ultrasound Physics and Instrumentation I (2 Credits)
2 lecture, 0 lab, 2 total contact hours
Instructs sonography students in the principles of ultrasound physics and instrumentation. Examines continuous and pulsed sound, sound wave intensities, interaction of sound and media, sound propagation, transducer basics, anatomy of a sound wave, and basic display modalities. Investigates axial, lateral, and temporal resolution. Prerequisite: Admission into the DCS program.
Typically offered: Fall

DCS 106 - Ultrasound Physics and Instrumentation II (2 Credits)
2 lecture, 0 lab, 2 total contact hours
Continues to instruct sonography students in the principles of ultrasound physics. Examines probe types, system instrumentation, displays, storage, signal processing, harmonics, and enhancement agents. Covers hemodynamics, Doppler principles, image artifact, bioeffects, and quality assurance. Prerequisite: DCS 105 with a grade of C or better.
Typically offered: Spring

DCS 107 - Sonography Theory I (2 Credits)
2 lecture, 0 lab, 2 total contact hours
Discusses the role of a sonographer and the sonography profession. Examines the different sonography specialty areas and related sonographic exams. Explores the ultrasound cross-sectional anatomy of the abdomen, pelvis, chest and neck. Maps the circulation of the cerebral vascular system. Introduces the normal and abnormal cerebrovascular ultrasound. Investigates cerebrovascular disease and trains the student to interpret cerebrovascular ultrasound exams. Corequisite: DCS 109.
Typically offered: Fall

DCS 108 - Sonography Theory II (2 Credits)
2 lecture, 0 lab, 2 total contact hours
Builds on the theoretical foundations covered in DCS 107. Explores the ultrasound cross-sectional vascular anatomy of the extremities. Maps the circulation from the trunk to the periphery. Introduces the normal and abnormal peripheral arterial and venous sonogram. Investigates peripheral vascular disease. Trains the student to interpret peripheral arterial and venous sonographic studies. Prerequisite: DCS 107 with a grade of C or better. Corequisite: DCS 110.
Typically offered: Spring

DCS 109 - Sonography Lab I (1 Credit)
0 lecture, 2 lab, 2 total contact hours
Provides supervised laboratory instruction and practice in the basics of ultrasound imaging. Introduces professional expectations of the student sonographer. Covers proper procedure and body mechanics for an ultrasound exam. Orients the student to imaging body habitus. Instructs on the operation of ultrasound equipment. Trains the student to perform diagnostic carotid sonograms. Pass/fail grade. Corequisite: DCS 107.
Typically offered: Fall

DCS 110 - Sonography Lab II (1 Credit)
0 lecture, 2 lab, 2 total contact hours
Provides supervised laboratory instruction and practice in peripheral vascular ultrasound imaging. Trains the student to perform diagnostic peripheral arterial and venous sonographic examinations. Introduces cardiac imaging. Expands upon the professional expectations of the student sonographer. Pass/fail grade. Prerequisite: DCS 109 with a grade of C or better. Corequisite: DCS 108.
Typically offered: Spring

DCS 112 - Sonography Lab III (1 Credit)
0 lecture, 2 lab, 2 total contact hours
Provides additional laboratory practice in common vascular ultrasound exams and basic echo views. This course is not required for graduation. Pass/fail grade.
Typically offered: Summer

DCS 207 - Cardiac Sonography Theory I (6 Credits)
6 lecture, 0 lab, 6 total contact hours
Examines cardiac anatomy, mechanics and pressures. Presents the ultrasound cross-sectional anatomy of the heart. Introduces the normal and abnormal echocardiogram. Investigates valvular heart disease and ventricular systolic dysfunction. Trains the student to interpret these pathologies on an echocardiogram. Prerequisite: DCS 106 with a grade of C or better. Corequistie: DCS 209.
Typically offered: Fall

DCS 208 - Cardiac Sonography Theory II (6 Credits)
6 lecture, 0 lab, 6 total contact hours
Investigates a host of conditions that impact the heart and echocardiogram. Covers coronary, pulmonary, pericardial, myocardial, systemic, endocardial, congenital, and aortic disease as well as cardiac masses and trauma. Examines interventions such as valve repair, transplant, assist devices, and echo-guided procedures. Trains the student to evaluate these conditions on an echocardiogram. Introduces advanced echo modalities such as transesphogeal, 3D, stress, and enhancement agents. Prerequisite: DCS 207 with a grade of C or better. Corequisite: DCS 210.
Typically offered: Spring

DCS 209 - Cardiac Sonography Lab I (2 Credits)
0 lecture, 4 lab, 4 total contact hours
Provides supervised laboratory instruction and practice in cardiac ultrasound imaging. Trains the student to perform a basic adult echocardiogram. Reinforces the professional expectations of the student sonographer. Pass/fail grade. Prerequisite: DCS 106 with a grade of C or better. Corequisite: DCS 207 - Cardiac Sonography Theory I
Typically offered: Fall

DCS 210 - Cardiac Sonography Lab II (2 Credits)
0 lecture, 4 lab, 4 total contact hours
Continues supervised laboratory instruction and practice in cardiac ultrasound imaging. Trains the student to perform advanced targeted adult echocardiograms. Reinforces the professional expectations of the student sonographer. Pass/fail grade. Prerequisite: DCS 209 with a grade of C or better. Corequisite: DCS 208.
Typically offered: Spring

DCS 220 - Introduction to the Cardiac Sonography Clinical (2.5 Credits)
2 lecture, 1 lab, 3 total contact hours
Prepares the student for their role as a cardiac sonographer in the hospital setting. Covers relevant policies, procedures, and considerations for working in the hospital, caring for patients, and completing sonograms in the clinical environment. Grooms the student for entrance into the sonography profession. Includes simulated and observational hospital clinical experiences. Prerequisite: DCS 207 and DCS 209 with grades of C or better. Corequisite: DCS 208 and DCS 210.
Typically offered: Spring

DCS 230 - Cardiac Sonography Clinical (5 Credits)
0 lecture, 25 lab, 25 total contact hours
Provides the student with practical clinical experience performing adult echocardiograms in a hospital or other clinical setting. Orients the student to that hospital environment and the specific policies and procedures for completing sonograms in that medical setting. Allows the sthdent to perform these echocardiograms on patients under the close supervision of clinical staff. Provides an opportunity for students to develop and demonstrate the knowledge base, clinical skills, and professional skills required of an entry-level sonographer. Prerequisite: DCS 208, DCS 210 and DCS 220 with grades of C or better. (NOTE: The prerequisite is being waived for Fall 2020.)
Typically offered: Summer

DCS 260 - Advanced Sonography Seminar (1 Credit)
1 lecture, 0 lab, 1 total contact hours
Introduces new or advanced topics in sonography. Explores the evolution and provides necessary background in terms of related anatomy, hemodynamics, physics and pathology. Presents related ultrasound case studies and trains in the interpretation of the ultrasound examination. Covers implications to the performance of the sonographic procedure including protocols, modalities and specific assessment techniques. Enhances the skill of the sonographer past entry level. May be repeated up to 6 credit hours.