



## **Diagnostic Medical Sonographer Program**

2440 Clock Hours, 101.0 Semester Credit Hours

### **Program Description**

Diagnostic Medical Sonographers, work towards conducting sonographic exam to create images in order to help physicians assess and diagnose medical conditions. Sonographers schedule and coordinate tests, records test results, and prepares and maintains operational logs.

### **Program Objective**

The objective of the Diagnostic Medical Sonography Program is not only to prepare students to become skilled sonographers but also to equip them with the essential knowledge of the vital principles and instrumentation of Diagnostic Ultrasound.

### **Course Description**

#### BIO110 Medical Terminology

This module will cover a comprehensive study of the more common medical roots, prefixes and suffixes. The topic will relate medical language used in medical field.

#### BIO111 Anatomy and Physiology 1

This is an introduction to anatomy, the science of body structure, and the physiology, the study of body function. The anatomy and physiology of the body are closely related and this topic is the basic introduction to all those relationships.

#### BIO112 Anatomy and Physiology 2

This is an introduction to anatomy, the science of body structure, and the physiology, the study of body function. The anatomy and physiology of the body are closely related and this topic is the basic introduction to all those relationships. The introduction covers following topics: The Spinal cord and Spinal Nerves, Development and Inheritance and Vascular Anatomy. Required pre-requisite for the module: BIO 111.

#### PTC 110 Patient Care

The topics covered under this module are:

Patient Care Techniques, Safety & Communication: bio-effects of ultrasound, monitoring of patient, common emergency handling, vital signs, assisting patient transfer and movement, and communication modes; Infection Control: terminology and basics of asepsis, cycle of infection, standard precautions.

#### UHC 111 Understanding Health Care

In this module, the student will learn about ICD diagnostic codes, medical insurance, office administration, PACS & DICOM. Students will also gain knowledge about record keeping, personnel & fiscal management. The student also learns about latest & future trends in ultrasound imaging, understanding other modalities, statistics & transducer disinfection.



## SPI 222 Ultrasound Physics & Doppler

The student will learn about the parameters of sound wave, pulsed ultrasound, interaction of sound with different media, range equation, axial resolution, types of transducers, characteristics of sound beams, display modes, two-dimensional imaging, real-time imaging, displays and image storage, dynamic range, and harmonics.

Required pre-requisite for the module: BIO 112.

## SPI 223 Instrumentation and Doppler

Students will also cover various sections of instrumentation and by the end of the class will have a complete understanding of Doppler.

Required pre-requisite for the module: SPI 222.

## DMS 233 Abdomen and Small Parts

This module covers the scanning techniques of abdominal organs like liver, biliary tree, pancreas, spleen, gall bladder, kidney, urinary bladder, appendix, along with the pathology of abdomen organs and small parts like thyroid glands, parathyroid glands, prostate, scrotum and breasts.

Required pre-requisite for the module: BIO 112 and SPI 223.

## DMS 243 Vascular Scanning

This module covers the basic introduction to the vascular ultrasound. The module covers the basic concept about vasculature, the vascular anatomy and pathology related to vessels.

Required pre-requisite for the module: BIO 112 and SPI 223.

## DMS 253 OB/GYN

This module includes scanning techniques of Pelvic organs like ovaries, uterine tubes and cervix. They also study about normal and completed pregnancy, scanning techniques of fetus, pathology & congenital anomalies of the fetus.

Required pre-requisite for the module: BIO 112 and SPI 223.

## DMS 264 Pre – Clinical

In this module the student will be required to practice the clinical protocols learned in all the core scanning modules. The student will practice and review the protocols under the supervision of the clinical instructor covering the scanning protocols of Abdomen and Small Parts, Ob/Gyn and Vascular modules.

Required pre-requisite for the module: DMS 233, DMS 253 and DMS 243.

## DMS 265 DMS Externship

This course will provide the student with hands-on experience in a physician's office, hospital, or imaging centers under the supervision and control of the AIHT, overseen by a designated site supervisor. Externships allow students to develop skills and contacts within the profession while they explore various career opportunities.

Required pre-requisite for the module: DMS 264