

Diagnostic Ultrasound Technology (General and Vascular)

Overview

KU's certificate in diagnostic ultrasound and vascular technology is an 18-month accredited certificate program that prepares the student sonographer to use complex ultrasound equipment in a clinical setting. The sonographer, after advanced training, uses high-frequency sound waves for diagnostic purposes under the direction of a radiologist. A certificate from The University of Kansas School of Health Professionals is awarded to the student upon successful completion of the program at its KU Medical Center campus in Kansas City, Kansas.

Graduates are candidates to take the national registry examinations given by the American Registry of Diagnostic Medical Sonographers in the areas of abdomen, obstetrics and gynecology, vascular technology, and sonography principles and instrumentation. Those who pass the exams become registered diagnostic medical sonographers and registered vascular technologists.

More about this program and the profession can be found on the program's website (<http://www.kumc.edu/school-of-health-professions/ultrasound.html>).

The University of Kansas Diagnostic Ultrasound and Vascular Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS). The Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756; 727-210-2350, www.caahep.org.

Program accreditation, outcomes, and gainful employment disclosure are available at ultrasound.kumc.edu.

Courses

UTEC 50. Introduction to Diagnostic Ultrasound and Medical Law and Ethics for the Imaging Professional. 4.8 Credits.

An introductory overview of the field of Diagnostic Ultrasound Technology which encompasses medical terminology for the sonographer, patient and nursing skills, departmental organization and function and computer safety modules. In addition, the review of the department's ultrasound equipment with extensive review of functionality and design of each specific unit. Competency check-off required. This course will also introduce to the imaging professional the legal aspects to patient care. The student will participate in group discussions analyzing practical incidents that may occur in the clinical didactic training. Prerequisite: Acceptance into the Diagnostic Ultrasound Technology Program.

UTEC 51. Introduction to Sonography Principles and Instrumentation I. 1.5 Credits.

This course is designed to introduce the students to the basic terminology, the principles of propagation, beams and transducers and possible biological effects. Prerequisite: College Physics along with acceptance into the Diagnostic Ultrasound Technology Program.

UTEC 53. Abdominal I Sonography. 1.25 Credits.

This course is designed to introduce renal anatomy, physiology and pathology and the associated sonographic appearances. This includes clinical indications for ultrasound of the kidneys along with sonographic appearances of normal and disease processes with instrumentation, technique and protocols. Prerequisite: College anatomy and physiology along with acceptance into the Diagnostic Ultrasound Technology Program

UTEC 54. Small Parts Sonography I. 1 Credits.

This course is taught in modules corresponding to superficial structures of the body. This course provides instruction in Neck and Scrotal sonography. Each module includes: review of anatomy, physiology and pathology, clinical indications for sonography, sonographic appearances of normal and disease processes, along with instrumentation, technique and protocols. Prerequisite: College anatomy and physiology along with acceptance into the Diagnostic Ultrasound Technology Program.

UTEC 55. Gynecologic Sonography. 1.75 Credits.

This course is designed to educate the student on gynecologic anatomy, physiology and pathology and the sonographic appearances. This includes clinical indications for ultrasound along with instrumentation, technique and protocols. Prerequisite: College Anatomy and Physiology along with acceptance into the Diagnostic Ultrasound Technology Program

UTEC 56. Clinical Internship I. 4.4 Credits.

Through supervised clinical experience in the ultrasound imaging department the student will gain knowledge and be required to demonstrate competence in gynecologic and small part clinical imaging and instrumentation. Prerequisite: Abdominal I, Small Part I and Gynecologic Sonography.

UTEC 60. Advanced Sonography Principles and Instrumentation II. 2.4 Credits.

This course is designed to educate the student on advanced areas of ultrasonic propagation principles, transducer parameters, instrumentation, interactive properties with tissues, possible biological effects and quality control procedures. Introduction to Color and Spectral Doppler is included. Prerequisite: Introduction to Sonography Principles and Instrumentation I.

UTEC 61. Obstetrical Sonography 1st Trimester. 1 Credits.

This course is designed to educate the student on normal maternal changes and fetal development throughout gestation. Embryonic and fetal anatomy, anomalies, pathology, biometry and the sonographic appearances are reviewed. Instrumentation, technique, and protocols are studied. Prerequisite: Gynecologic Sonography and college anatomy and physiology.

UTEC 62. Abdominal Sonography II. 2.8 Credits.

This course is taught in module corresponding to abdominal organs and compartments imaged in the abdomen. This course provides instruction in Liver, Biliary, Pancreas and Spleen. Each module includes: review of anatomy, physiology and pathology, clinical indications for sonography, sonographic appearances of normal and disease processes, along with instrumentation, technique and protocols. Abdominal Doppler of normal, diseased, and transplanted liver and pancreas will be included. Prerequisite: Abdominal Sonography I

UTEC 63. Obstetrical Sonography 2nd and 3rd Trimester. 1.75 Credits.

This course is designed to educate the student on normal maternal changes and fetal development throughout gestation. Embryonic and fetal anatomy, anomalies, pathology, biometry and the sonographic appearances are reviewed. Instrumentation, technique, and protocols are studied. Prerequisite: Obstetrical Sonography 1st Trimester

UTEC 64. Small Parts Sonography II. 1 Credits.

This course is taught in modules corresponding to superficial structures of the body. This course provides instruction in breast sonography. The module includes: review of anatomy, physiology and pathology, clinical indications for sonography, sonographic appearances of normal and disease processes, along with instrumentation, technique and protocols. Prerequisite: Small Parts Sonography I.

UTEC 65. Vascular Technology I. 1 Credits.

This course is taught in modules corresponding to selected sites in the vascular system. Each module includes review of: anatomy, physiology, pathology, and clinical indications for noninvasive vascular imaging and disease processes. Instrumentation, technique, and protocols are included. Prerequisite: Advanced Sonography Principles and Instrumentation II and Abdominal Sonography I.

UTEC 66. Clinical Internship II. 8.9 Credits.

Through supervised clinical experience in the ultrasound imaging department and perinatology department the student will gain knowledge and be required to demonstrate competence in gynecologic, obstetrical, small parts and abdominal clinical imaging and instrumentation including Color and Spectral Doppler evaluation. Prerequisite: Gynecologic Sonography, Small Parts Sonography I and II, Obstetrical 1st, 2nd & 3rd Trimester Sonography and Abdominal Sonography I and II.

UTEC 70. Abdominal Sonography III. 1.3 Credits.

This course is taught in modules corresponding to abdominal organs and compartments imaged in the abdomen. This course provides instruction in the Retroperitoneum, Peritoneum, Gastrointestinal, Abdominal Wall and Great Vessels. Each module includes: review of anatomy, physiology and pathology, clinical indications for sonography, sonographic appearances of normal and disease processes, along with instrumentation, technique and protocols. Prerequisite: Abdominal Sonography I and II

UTEC 71. Vascular Technology II. 3 Credits.

This course is taught in modules corresponding to selected sites in the vascular system. Each module includes review of: anatomy, physiology, pathology, and clinical indications for noninvasive vascular imaging and disease processes. Instrumentation, technique, and protocols are included. Prerequisite: Advanced Sonography Principles and Instrumentation II and Abdominal Sonography I, II and III.

UTEC 72. Clinical Internship III. 5.8 Credits.

Through supervised clinical experience in the ultrasound imaging department and perinatology department the students will gain knowledge and be required to demonstrate competence in gynecologic, obstetrical, small parts, abdominal and vascular clinical imaging and instrumentation including Color and Spectral Doppler evaluation. Prerequisite: Gynecologic Sonography, Small Parts I and II Sonography, Obstetrical 1st, 2nd & 3rd Trimester Sonography, Abdominal Sonography I, II, III and Vascular Technology.

UTEC 80. Senior Seminar and Review I. 5 Credits.

This course is designed to prepare the student for national board examinations administered by the American Registry of Diagnostic Medical Sonographers in the field of ultrasound and vascular technology. The student will be responsible for "in class" review of ultrasound clinical procedures, including anatomy, physiology, disease processes and sonographic appearances, and sonography principles and instrumentation. In addition, the student will learn post graduate skills to enhance professional opportunities. Prerequisite: Gynecologic, Small Parts I and II, Obstetrical 1st, 2nd & 3rd Trimester, and Abdominal Sonography I, II and III, Clinical Internship I, II, III and IV and Introduction to Sonography Principles and Instrumentation I and Advanced Sonography Principles and Instrumentation II and Vascular Technology I and II.

UTEC 81. Clinical Internship IV. 8.3 Credits.

Through clinical supervised learning situations in a clinical ultrasound imaging department the student will gain knowledge and be required to demonstrate competence in noninvasive vascular imaging procedures and all aspects of instrumentation. Prerequisite: Gynecologic Sonography, Small Parts I and II Sonography, Obstetrical 1st, 2nd & 3rd Trimester Sonography, Abdominal Sonography I, II, III and Vascular Technology.

UTEC 90. Senior Seminar and Review II. 3 Credits.

This course is designed to prepare the student for national boards administered by the American Registry of Diagnostic Medical Sonographers in the field of ultrasound and vascular technology. The student will be responsible for in class review of ultrasound clinical procedures, including anatomy, physiology, disease processes and sonographic appearances, ultrasound physics and instrumentation and vascular physics and instrumentation. In addition, the student will learn post graduate skills to enhance professional opportunities. Prerequisite: Gynecologic, Small Parts I and II, Obstetrical 1st, 2nd & 3rd Trimester, and Abdominal Sonography I, II and III, Clinical Internship I, II, III and IV and Ultrasound Physics and Instrumentation, Vascular Technology and Vascular Physics and Instrumentation and Senior Seminar and Review I.

UTEC 91. Clinical Internship V. 4.7 Credits.

Through clinical supervised learning situations in a clinical ultrasound imaging department the student will gain knowledge and be required to demonstrate competence in noninvasive vascular imaging procedures and all aspects of instrumentation. Prerequisite: Gynecologic Sonography, Small Parts I and II Sonography, Obstetrical 1st, 2nd & 3rd Trimester Sonography, Abdominal Sonography I, II, III and Vascular Technology.