

Online Ultrasound Courses Offered for Registered Sonographers

2026 – 2027 Academic Year

Fall Term		Spring Term
ULT 401 Vascular Technology I ULT 405 Adult Echocardiography I		ULT 402 Vascular Technology II ULT 405 Adult Echocardiography II ULT 400 Ultrasound Physics

2027 – 2028 Academic Year

Fall Term		Spring Term
ULT 401 Vascular Technology I ULT 405 Adult Echocardiography I ULT 400 Ultrasound Physics		ULT 402 Vascular Technology II ULT 405 Adult Echocardiography II ULT 425 Breast Sonography

2028 – 2029 Academic Year

Fall Term		Spring Term
ULT 401 Vascular Technology I ULT 405 Adult Echocardiography I ULT 400 Ultrasound Physics ULT 420 Pediatric Sonography I		ULT 402 Vascular Technology II ULT 405 Adult Echocardiography II ULT 425 Breast Sonography ULT 421 Pediatric Sonography II

*Course offerings are subject to change.

Online Ultrasound Course Descriptions

ULT 400 Ultrasound Physics (3) Exploration of physical principles essential to diagnostic medical sonography. Topics to include theoretical and practical concepts of ultrasound and Doppler instrumentation, with an emphasis on sound waves, ultrasound transducers, imaging systems, image optimization, artifacts, Doppler and hemodynamic principles, bioeffects, and quality assurance. Three hours lecture per week.

ULT 401 Vascular Technology I (3) Study and application of vascular sonography principles with a focus on cardiovascular hemodynamics, abdominal vasculature, and the cerebrovascular system. Topics to include anatomy, physiology, pathology, examination techniques, the diagnosis and treatment of vascular disorders, correlative imaging, and quality assurance. Three hours lecture per week.

ULT 402 Vascular Technology II (3) Continuation of Vascular Technology I with a focus on the peripheral venous and arterial systems. Topics to include anatomy, physiology, pathology, duplex and physiologic examination techniques, and the diagnosis and treatment of vascular disorders. Three hours lecture per week. Prerequisite: ULT 401 Vascular Technology I.

ULT 405 Adult Echocardiography I (3) Study and application of cardiac sonography principles and techniques with a focus on adult echocardiography. Topics to include anatomy, hemodynamics and physiology, valve assessment, pathology, clinical symptoms, examination techniques, and sonographic appearance. Three hours lecture per week.

ULT 406 Adult Echocardiography II (3) Continuation of Echocardiography I. Topics to include evaluation of cardiac pathologies and congenital defects, sonographic appearance, clinical indications, correlative imaging and specialized echocardiography applications. Three hours lecture per week. Prerequisite: ULT 405 Adult Echocardiography I.

ULT 420 Pediatric Sonography I (3) Study and application of pediatric sonography with a focus on neonatal head, neonatal spine, pediatric hip and pediatric bowel. Topics to include anatomy, physiology, pathology, congenital variants, clinical symptoms, sonographic appearances and examination techniques. Three hours lecture per week.

ULT 421 Pediatric Sonography II (3) Study and application of pediatric sonography with a focus on abdominal organs and structures, genitourinary systems, thyroid, neck, and chest. Topics to include anatomy, physiology, pathology, congenital variants, clinical symptoms, sonographic appearances and examination techniques. Three hours lecture per week.

ULT 425 Breast Sonography (3) Study and application of breast sonography. Topics to include anatomy, physiology, pathology, clinical assessment, correlative imaging, scanning techniques, emerging technologies, interventional procedures, and treatment options. Three hours lecture per week.