

CARDIOVASCULAR TECHNOLOGY- CARDIAC SONOGRAPHY, Associate in Science Degree - 3530

Health Careers Department

CIP Code: 51.0901

The Cardiovascular Technology: Cardiac Sonography AS program prepares students to enter the healthcare profession as a Diagnostic Cardiac Sonographer. A Diagnostic Sonographer utilizes high frequency sound waves to produce, record, and evaluate ultrasound images of the heart, great vessels and surrounding anatomy. The Diagnostic Cardiac Sonographer must be proficient in various different ultrasound modalities including M-mode, 2-Dimensional, Doppler and Color Doppler imaging. This occupation requires specialized technical skills, critical thinking and problem-solving ability as well as medical knowledge including anatomy, physiology, and pathophysiology to render quality care. Individuals must be able to correlate related patient data, apply physics principles in order to obtain optimal images for rendering a diagnosis, and develop differential diagnoses based on patient history and examination findings. The curriculum uses didactic, laboratory, and clinical instruction to achieve its goal of preparing students to care for cardiac patients. This program is accredited by the Commission on Accreditation of Allied Health Education Programs. 75% of this program may be completed at the Lancaster Campus through on-campus/in-person instruction. The remaining coursework must be completed through various modalities (e.g., hybrid, synchronous remote instruction and asynchronous instruction).

Selective Program: Entry into this program is not guaranteed with admission to the College; this is a selective and competitive admission program; specific admissions criteria must be met. Please go to the Health Careers website (www.hacc.edu/healthcareers), or contact us by email at start@hacc.edu for specific program entry requirements.

Please note that students interested in this program must begin in the Pre-Health Professions AS degree. Then, students may apply for admission into this program, once they meet the requirements to apply. Students can discuss these admission requirements as part of their advising process.

Career Opportunities

Graduates are employed as diagnostic cardiac sonographers by health care facilities and other specialized facilities requiring their specific expertise in the field of cardiovascular technology.

Competency Profile

This curriculum is designed to prepare students to:

- Prepare competent entry-level cardiovascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for adult echocardiography
- Be knowledgeable in anatomy, pathology, physiology and technical methods required for entry-level cardiac sonographers
- Possess problem-solving, critical thinking, and analytical abilities
- Possess the professional and ethical characteristics of a healthcare provider
- Possess effective communication skills
- Demonstrate an understanding of the importance of professional growth, continuing education and professional certification
- Possess the knowledge and skills required of an entry-level adult cardiac sonographer

PROGRAM REQUIREMENTS (TOTAL CREDITS = 63)

General Education		Major Requirements		Other Required Courses
ENGL 101 English Composition I	3	CVT 101 Introduction to Cardiovascular Tech	3	
ENGL 102 English Composition II	3	CVT 102 Cardiovascular Technology Laboratory	1	
COMM 101 Effective Speaking (or)	3	CVT 103 Cardiovascular Technology Clinical Experience	2	
COMM 203 Interpersonal Communication	(3)	CVT 219 Intro to Ultrasound Imaging Systems	1	
Humanities & Arts Core Elective*	3	CVT 220 Intro to Cardiac Sonography	3	
Mathematics Core Elective - <i>MATH 111</i>	3	CVT 221 Cardiac Pathophysiology & Echo Concepts I	4	
Mathematics or Science Core Elective - <i>BIOL 122</i>	4	CVT 222 Cardiac Sonography Phys & Instrumentation	3	
Science w/ a Laboratory Core Elective - <i>BIOL 121</i>	4	CVT 223 Cardiac Pathophysiology & Echo Concepts II	4	
Social & Behavioral Science Core Elective	3	CVT 224 Cardiac Sonography Clinical I	4	
First-Year Seminar Elective - <i>CVT 100</i>	3	CVT 226 Cardiac Hemodynamics	1	
Wellness Elective	1	CVT 228 Cardiac Sonography Clinical II	5	
	30	CVT 230 Introduction to Pediatric Echocardiography	2	
			33	

*Students are to select courses from the following: ART 181, 182; ENGL 206; FMTH 101; HUM 101, 115, 201; MUS 104; PHIL 200; SPAN 104; or a foreign language course.

Note: Students must complete the following courses with a grade of C or higher to graduate: all CVT courses and BIOL 121 and 122.

Updated 3/14/24 ERS

RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester I		Spring Semester I		Summer I		Fall Semester II		Spring Semester II	
BIOL 121	4	BIOL 122	4	CVT 103	2	CVT 221	4	CVT 219	1
CVT 100	3	COMM 101 or 203	3	ENGL 102	3	CVT 222	3	CVT 220	3
ENGL 101	3	CVT 101	3			Humanities/Arts Core Elective	3	CVT 223	4
MATH 111	3	CVT 102	1			Social/Behavioral Science Core Elective	3		
Summer II		Fall Semester III							
CVT 224	4	CVT 228	5						
CVT 226	1	CVT 230	2						
Wellness Elective	1								