

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

Health & Public Service Department

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. The complete program is only available at the Lancaster Campus.

*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](http://www.hacc.edu/healthcareers)), or contact us by email at [start@hacc.edu](mailto:start@hacc.edu) for specific program entry requirements.

## 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	CVT 101 Introduction to Cardiovascular Tech	3
ENGL 102 English Composition II	CVT 102 Cardiovascular Technology Laboratory	1
COMM 101 Effective Speaking (or)	CVT 103 Cardiovascular Technology Clinical Experience	2
COMM 203 Interpersonal Communication	CVT 219 Intro to Ultrasound Imaging Systems	1
Humanities & Arts Elective*	CVT 220 Intro to Ultrasound Imaging Systems	3
Mathematics Elective - MATH 111	CVT 221 Cardiac Pathophysiology & Echo Concepts I	4
Mathematics or Science Elective - BIOL 122	CVT 222 Cardiac Sonography Phys & Instrumentation	3
Science w/ a Laboratory Elective - BIOL 121	CVT 223 Cardiac Pathophysiology & Echo Concepts II	4
Social & Behavioral Science Elective	CVT 224 Cardiac Sonography Clinical I	4
First-Year Seminar Elective - CVT100	CVT 226 Cardiac Hemodynamics	1
Wellness	CVT 228 Cardiac Sonography Clinical II	5
	CVT 230 Introduction to Pediatric Echocardiography	2
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\*Students are to select courses from the following: ART 181, 182; ENGL 206; HUM 101, 115, 201; MUS 104; PHIL 200; THTR 101; SPAN 104; or a foreign language course.

Note: A grade of C or higher is required in all CVT and BIOL 121 and 122 courses.

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

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

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