

***Please note, graduates of this program will receive their degree from Harrisburg Area Community College.**

The Cardiac Sonography A.S. Degree program, through an agreement with Harrisburg Area Community College, is accredited by the Commission on Accreditation of Allie Health Education Programs (CAAHEP)

Program Features

Northampton Community College (NCC) signed a cooperative agreement with Harrisburg Area Community College Lancaster Campus (HACC) on July 16, 2019 to better serve students in the Northampton, Monroe, Wayne and Pike regions who are interested in pursuing a career as a Cardiac Sonographer or Cardiovascular Invasive Technologist (programs offered at the HACC~Lancaster campus). This career pathway requires completion of a cardiac sonography curriculum currently offers at the campus in Lancaster, PA. This collaborative agreement would allow students to take all their general education courses for the Cardiac Sonography program at their “home” college and then take the core Cardiac Sonography courses at HACC. After the students have completed all their general education courses in the curriculum and met the program admissions requirements at NCC, they would apply to the HACC Lancaster program by April 15 and complete three prerequisite HACC courses for a fall start in their second year. Students can complete their clinical rotations in clinical facilities located closer to their home, based on clinical affiliation agreements that HACC has in place.

The HACC-Lancaster AS in Cardiac Sonography is accredited by CAAHEP. Our local employer LVHN will have 4 clinical slots available for the upcoming class and they agree that the partnership is needed in the area for our students and that there would be positions in their networks. The field will be needing an additional 17% sonographers for the next few years due to attrition and an aging workforce.

(Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, Diagnostic Medical Sonographer, Cardiovascular Technologist* <https://www.bls.gov/ooh/healthcare/diagnostic-medical-sonographers.htm> (researched July 23, 2019))

Program Rationale and Outcomes

Program goals are to prepare students to:

- be competent entry-level cardiovascular technologists
- demonstrate competence in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains for adult echocardiography

What is the most current (2015-2017) program effectiveness data?

- program completion rate —77%
- Program performance on national board exam —92%
- Job placement —84%

Program Outcomes include, but are not limited to, the following.

Cardiac sonographers have various duties including:

- operate ultrasound equipment to create diagnostic images proving normal versus abnormal cardiac pathology.
- develop differential diagnoses based on patient history and examination findings.
- are proficient in various ultrasound modalities, including M-mode, 2-Dimensional, Spectral Doppler, Color flow Doppler imaging, 3D imaging, strain and strain rate images.

Admission Requirements

1. Students must meet the following ELIGIBILITY CRITERIA to be considered for selective admission into HACC's Invasive Cardiovascular Technology or Cardiac Sonography clinical courses. Applicants must:
 - a. Meet with the Cardiovascular Technology Program Director to discuss the academic and clinical requirements of the program and be informed of the selection process for enrollment in the CVT courses. The meeting is mandatory and must be completed by April 15 prior to the intended Fall entry. HACC will verify receipt and evaluation of transcripts by April 15 of the Spring semester prior to the intended Fall entry date.
 - b. Show evidence of completion or course registration in Anatomy & Physiology I and II with a C or better.
 - c. Meet all HACC requirements and deadlines pertaining to application for admission, payments, etc.
 - d. Once accepted into the program, NCC students will be admitted to HACC and be considered HACC students and graduate from HACC.
2. Selection for the program will be determined in the following manner:
 - a. NCC students will be treated as a separate cohort for admission to the program.
 - b. Only students who meet the minimum required score will be eligible for selection.
 - c. The number of native NCC students selected for admission will be limited to the number of clinical partner sites secured by NCC.
 - d. If the number of qualified applicants exceeds the number of clinical slots, HACC program staff will select the most qualified applicants for admission.
 - e. Clinical slots secured by NCC not filled by native NCC applicants may be offered to native HACC students. Likewise, clinical slots secured by HACC not filled by native HACC students may be offered to native NCC students.
3. Upon acceptance into the clinical portion of the program, the student will be required to submit the following:
 - a. Full medical assessment including (but not limited to), medical history, and vaccinations or proof of immunity.

- b. Basic Life Support (BLS) certification for the professional rescuer (approved provider is American Heart Association).
- c. Proof of current enrollment in a health insurance plan.
- d. "No records" status for PA Child Abuse Clearance, PA State Police Criminal Record Check and FBI finger print check.
- e. Agreement to abide by dress code/personal appearance and other policies set forth by the clinical affiliates.
- f. Proof of a negative drug screen based on clinical affiliation agreements.

Transfer Curriculum:

1. NCC students are encouraged to complete common General Education courses at the school that is most convenient for them. HACC (HACC) will accept and grant credit for NCC's courses that are listed as equivalent if the student has completed the course with a grade of "C" or higher.
2. Courses taken to meet General Education Requirements at NCC will be applied to corresponding General Education Requirements at HACC wherever possible.

Program of Study

This is a suggested sequencing that is subject to change and is individually scheduled based on student schedules. Admission is not guaranteed.

Proposed Sequence: See program Map

NCCC Course Transfer Equivalencies prior to application		HACC General Education Requirement Invasive Cardiovascular Technology or Cardiac Sonography Program	
ENGL 101 English I	3cr	ENGL 101 English Composition I	3cr
ENGL 151T English II *	3cr	ENGL 102 English Composition II	3cr
CMTH 102 Introduction to Communication	3cr	COMM 101 Effective Speaking or COMM 203 Interpersonal Communication	3cr
Arts & Humanities elective with a "Diversity" designation (See Appendix A)	3cr	Humanities and Arts – Global Awareness Elective	3cr
Social and Behavioral Science Core	3cr	Social and Behavioral Science Elective	3cr
BIOS 204 Human Anatomy & Physiology I	4cr	BIOL 121 Anatomy & Physiology I	4cr
BIOS 254 Human Anatomy & Physiology II	4cr	BIOL 122 Anatomy & Physiology II	4cr
PE/Health/Wellness	cr	Wellness Elective	1cr
MATH 120 Nature of Mathematics	3cr	MATH 111 Principles of Mathematics	3cr
COLS 101 College Success	1cr	First-Year Seminar	1cr

Career Potential and Transfer

Overall employment of diagnostic medical sonographers and cardiovascular technologists and technicians is projected to grow 17 percent from 2016 to 2026, much faster than the average for all occupations. As the large baby-boom population ages, the need to diagnose medical conditions—such as blood clots and heart disease—will likely increase. Imaging technology is a tool used in making these diagnoses.

Potential Employers and Appropriate Labor Market Studies

Diagnostic medical sonographers and cardiovascular technologists and technicians, including vascular technologists, also called *diagnostic imaging workers*, operate special imaging equipment to create images or to conduct tests. The images and test results help physicians assess and diagnose medical conditions.

Work Environment

Most diagnostic medical sonographers and cardiovascular technologists and technicians, including vascular technologists, work full time. Most diagnostic imaging workers were employed in hospitals in 2016, while most of the rest worked in physicians' offices or medical and diagnostic laboratories.

How to Become a Diagnostic Medical Sonographer or Cardiovascular Technologist or Technician, Including Vascular Technologist

Diagnostic medical sonographers and cardiovascular technologists and technicians, including vascular technologists, need formal education, such as an associate's degree or a postsecondary certificate. Many employers also require professional certification.

Job Outlook

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Earnings

The median annual wage for cardiovascular technologists and technicians was \$56,850 in May 2018.

The median annual wage for diagnostic medical sonographers was \$72,510 in May 2018.

Certification/Licensure

The CVT program is accredited by the Commission on Accreditation of Allied Health Education Programs ([CAAHEP](#))

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Continuing Education

- This program leads directly to an occupation.
- Students can pursue a Bachelor of Science degree in a health-related field in order to transition into a management, education or industry position:
 - Franklin University offers a BS in Allied Healthcare Management
 - Shippensburg University offers a BS in Healthcare Administration
 - Immaculata University offers an accelerated BA in Health Care Management. They offer classes in accelerated format at HACC's Lancaster Campus

Cardiac Sonography Program Office

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