

*Caldwell Community College and Technical Institute*

**Cardiovascular Sonography and  
Echocardiography Certificate Programs  
Admissions Information**

**Program Information**

**These one-year certificate programs are designed for currently practicing sonographers.** Graduates from the Cardiovascular Certificate program and/or the Echocardiography Certificate program are **not eligible** to apply to the American Registry of Diagnostic Medical Sonographers.

Classes meet during the evening on the Caldwell Campus in Hudson, NC.

Each certificate program begins in August, and there is a limit to the number of students who can be accepted.

The cardiovascular sonography and echocardiography certificate programs each admit one class each fall semester. After **October 1st**, we will begin admitting students into the next year's class and will continue throughout the year until the class is filled.

**Admission Requirements**

**It is suggested that admission requirements be met in the following order. After all of the following admission requirements are met, applicants are admitted into the program on a "first-come, first-served" basis by the completion date of all requirements.**

**1. CCCTI application**

Applications are available on-line at [www.cccti.edu](http://www.cccti.edu).

**2. Official documentation of high school graduation/high school equivalency**

A high school graduate should request an official transcript to be sent to CCC&TI indicating date of graduation. This is required even if the applicant holds a college degree.

Applicants with a high school equivalency must provide official documentation to CCC&TI from the granting institution.

Reproduced copies of documents are not acceptable.

**3. Official transcripts of any college work**

The applicant should request colleges to mail transcripts directly to CCC&TI.

If currently enrolled at another college, request a transcript now and another one at the completion of courses.

College transcripts must be received and evaluated in order to determine placement test exemption and/or awarding of college transfer credit.

**4. Interview (optional).**

- Applicants to the one-year cardiovascular sonography and echocardiography certificate programs may schedule an interview with the program director prior to admission if they so desire, but an interview is not required.
- Please contact Robin Nichols, Program Director, at 828-726-2322 for an interview appointment, especially if you have questions regarding your current clinical experience.

## **Progression Policy**

The sonography student must demonstrate an acceptable level of competency by earning a grade of “C” or better in all general education and CVS/SON-prefixed courses. *Clinical Education Courses require a final grade of 85 or better to progress.* Failure to maintain these program standards will result in student dismissal from the program. Refer to the Sonography Program Guide for further details.

### ***Please Note: Each applicant is responsible for:***

- *completing admission requirements,*
- *confirming receipt of letters and documents in the admissions office,*
- *keeping CCC and TI informed in writing of any personal information changes,*
- *keeping copies of all documentation submitted to CCCTI (i.e., CPR, physical exam).*

## **Caldwell Community College & Technical Institute Sonography Programs Technical Standards**

### **Technical Standard I: Observation**

- Students must be able to observe demonstrations and participate in physical examination sessions, clinical skills workshops, observe the difference of normal versus pathological states. They must be able to obtain a medical history and perform a complete physical examination in order to integrate findings based on these observations and to develop an appropriate diagnostic and treatment plan.
- Students must have sufficient visual acuity to read sonography prescriptions and patient charts, observe conditions of the patient and evaluate sonographic images.
- Students are required to adequately view sonograms, including color distinctions and shades of gray.
- Students must have the ability to perceive pertinent detail in objects or in pictorial or graphic material; to make visual comparisons and discriminations and see slight differences in shape, contour and texture of organs and vascular structure; to comprehend forms in space and understand relationships of plane and solid objects; the ability to visualize objects of two or three dimensions.
- Students must be able to use auditory, tactile and visual senses to assess the physiological status of the patient.

### **Technical Standard II: Communication**

- Students must be able to communicate effectively and sensitively with patients, their families, and members of the health team. Students must be able to communicate effectively with patients from different social and cultural backgrounds, as well as develop effective professional rapport with patients and co-workers. Students must be able to record examination and diagnostics results clearly, accurately and efficiently. Students must be able to communicate effectively in English with patients, family and other health care professionals in a variety of patient settings.
- Students must have sufficient auditory perception to receive verbal communication from patients and members of the healthcare team to obtain and record an accurate patient history and to assess the health needs of people through the use of monitoring devices such as intercom systems, cardiac monitors, respiratory monitors and fire alarms.
- Students must have sufficient communication skills in English (verbal, reading, writing) to interact with individuals and to communicate their needs promptly and effectively, as may be necessary in the patient's/client's interest, collaborate with physicians and other members of the healthcare team, and provide an oral or written summary of the technical findings to the physician for medical diagnosis.
- Students must be able to read, write and communicate effectively in English.

### **Technical Standard III: Motor**

- Students must possess the capacity to perform physical examinations and diagnostic maneuvers. They must be able to respond to emergency situations in a timely manner and provide general and emergency care. They must possess adequate sensory function and motor coordination to fulfill minimum competency objectives for inspection, palpation, percussion and auscultation necessary to perform a physical examination. They must possess sufficient postural control, neuromuscular control and eye-to-hand coordination in order to utilize standard medical/surgical instruments to participate in the inpatient and outpatient setting and other clinical activities.
- Students must have sufficient gross and fine motor coordination to respond promptly and to implement skills related to the performance of sonographic imaging examinations and/or cardiovascular procedures, such as positioning and transporting patients and obtaining diagnostic images. Sonographers must be able to manipulate sonographic equipment in order to achieve diagnostic images. • Must successfully complete and maintain CPR certification

- Students must be able to lift, transfer and/or assist patients from wheelchair/stretchers to exam table
- Students must be able to lift, move, reach, push or pull heavy equipment on wheels (up to 500 lbs.)
- Students must be able to perform and sustain repeated bending, stretching, stooping, kneeling, reaching overhead, sitting and standing
- Students must have the manual dexterity and coordination to manipulate small knobs and toggle switches and control accessory equipment.
- Students must have the manual dexterity and coordination to manipulate equipment to respond to patient safety
- Students must have the ability to maintain prolonged arm positions necessary for scanning
- Students must be able to perform their job duties while standing on their feet 80% of the time.

**Technical Standard IV: Intellectual-Conceptual, Integrative and Quantitative Abilities**

- Students must be able to learn through a variety of modalities including, but not limited to, classroom instruction; small group, team and collaborative activities; individual study; preparation and presentation of reports; and use computer technology. Students must have the mental capacity to assimilate and learn a large amount of complex, technical and detailed information in order to formulate diagnostic and therapeutic plans.
- Students must have sufficient intellectual and emotional function to plan and implement quality patient care, analyze technical information, and use independent judgment in recognizing the need to extend the scope of the procedure according to the diagnostic findings.
  - Students must be able to demonstrate the ability to integrate diagnostic sonograms, laboratory results, patient history and medical records and adapt sonographic examinations as necessary.
  - Students must be able to demonstrate the ability to organize and accurately perform the individual steps in a sonographic procedure in the proper sequence.
  - Students must be able to demonstrate the ability to read and extract information from the medical chart or patient requisitions.
  - Students must be able to demonstrate the ability to explain the clinical study verbally and/or in writing.

**Technical Standard V: Behavioral and Social Attributes**

- Students must have the emotional stability to function effectively under stress and to adapt to an environment that may change rapidly, without warning, and/or in unpredictable ways. They must accept responsibility for learning, exercising good judgment, and promptly completing all responsibilities attendant to the diagnosis and care of patients. They must understand the legal and ethical standards of the medical profession.
- Students must be able to work effectively, respectfully and professionally as part of the healthcare team, and to interact with patients, their families, and health care personnel in a courteous, professional, and respectful manner.
- Students must be able to contribute to collaborative, constructive learning environments; accept constructive feedback from others; and take personal responsibility for making appropriate positive changes. Technical Standard VI: Ethical and Legal Standards
- Students must be able to understand the basis and content of both general and medical ethics. The student must possess attributes that include compassion, empathy, altruism, integrity, responsibility, and tolerance. Students must be able to recognize limitations in their knowledge, skills and abilities and to seek appropriate assistance with their identified limitations. Students whose performance is impaired by abuse of alcohol or other substances are not suitable candidates for admission, promotion, or graduation. In addition, should the student be convicted of any felony offense while in the Health Sciences & Nursing Programs, they agree to immediately notify the program as to the nature of the conviction. Failure to disclose prior or new offenses can lead to disciplinary action that may include dismissal.

Caldwell Campus Disability Services  
Telephone: 828-726-2746

Watauga Campus Disability Services  
Telephone: 828-297-3811 ext. 5263

## **Curriculum for Cardiovascular Sonography Certificate (C45160)**

<b>Fall Semester</b>		<b>Class</b>	<b>Lab</b>	<b>Clinical</b>	<b>Credit</b>
CVS 163	Echo I	3	2	0	4
SON 250	Vascular Sonography	1	3	0	2
		4	5	0	6

<b>Spring Semester</b>		<b>Class</b>	<b>Lab</b>	<b>Clinical</b>	<b>Credit</b>
CVS 164	Echo II	3	2	0	4
*SON 111	Sonographic Physics	3	3	0	4
		6	5	0	8

	<b>TOTAL</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>14</b>
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\*Applicants who are registered by the ARDMS in Ultrasound Physics and Instrumentation, Cardiovascular Physics, Vascular Physics, or Sonographic Principles and Instrumentation will receive credit for SON 111, providing appropriate documentation.

## **Curriculum for Echocardiography Certificate (C45160A)**

<b>Fall Semester</b>		<b>Class</b>	<b>Lab</b>	<b>Clinical</b>	<b>Credit</b>
CVS 163	Echo I	3	2	0	4
		3	2	0	4

<b>Spring Semester</b>		<b>Class</b>	<b>Lab</b>	<b>Clinical</b>	<b>Credit</b>
CVS 164	Echo II	3	2	0	4
*SON 111	Sonographic Physics	3	3	0	4
		6	5	0	8

	<b>TOTAL</b>	<b>9</b>	<b>7</b>	<b>0</b>	<b>12</b>
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\*Applicants who are registered by the ARDMS in Ultrasound Physics and Instrumentation, Cardiovascular Physics, Vascular Physics, or Sonographic Principles and Instrumentation will receive credit for SON 111, providing appropriate documentation.

## **Tuition and Fees**

<b>Tuition:</b>	In-State	\$76.00 per credit hour \$1,216.00 maximum tuition per semester
	Out-of-State	\$268.00 per credit hour \$4,288.00 maximum tuition per semester

**Activity Fees:** \$35.00 per semester, fall and spring semesters.

**Campus Services Fee:** \$2.00 per class, up to a maximum of \$10.00 per semester

### **For additional information, please contact:**

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*Since health program standards are mandated by accrediting and regulatory agencies, revisions to the above information may be necessary. Efforts will be made to keep changes to a minimum and finalized one year in advance of the starting date of the program; however, the college reserves the right to revise any part or section as necessary.*