

CURRICULUM STANDARD

Effective Term
Fall 2009
[2009*03]

Curriculum Program Title

Cardiovascular Sonography

Code

A45160

Concentration

(not applicable)

Curriculum Description

The Cardiovascular Sonography curriculum provides the individual with the knowledge and skills necessary to acquire, process, and evaluate the human heart and vascular structures. A cardiovascular sonographer uses high frequency sound waves to produce images of the heart and vascular structures.

Course work includes effective communication and patient care skills combined with a knowledge of physics, human anatomy, physiology, and pathology, all of which are essential to obtaining high quality sonographic images.

Graduates may be eligible to apply to the American Registry of Diagnostic Medical Sonographers for examinations in physics, cardiovascular physics, vascular physics, and adult echocardiography. Graduates may find employment in hospitals, physicians' offices, mobile services, and educational institutions.

Curriculum Requirements*

[for associate degree, diploma, and certificate programs in accordance with 23 NCAC 02E.0204(3)]

- I. General Education.** Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.
- II. Major Hours.** AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit. *(See second page for additional information.)*
- III. Other Required Hours.** A college may include courses to meet graduation or local employer requirements in a certificate, diploma, or associate in applied science program. These curriculum courses shall be selected from the Combined Course Library and must be approved by the System Office prior to implementation. Restricted, unique, or free elective courses may not be included as other required hours.

	AAS	Diploma	Certificate
Minimum General Education Hours	15	6	0
Minimum Major Hours	49	30	12
Other Required Hours	0-7	0-4	0-1
Total Semester Hours Credit (SHC)	64-76	36-48	12-18

**Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic use of computers.*

Major Hours

[ref. 23 NCAC 02E.0204 (3)]

- A. Core.** The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the subject/course core of the AAS program.
- B. Concentration** (if applicable). A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course core.
- C. Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours of credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit.

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	AAS	Diploma	Certificate																																				
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC																																				
<p>A. CORE <i>A diploma offered under this AAS degree requires a minimum of 12 SHC extracted from the required subject/course core of the AAS degree.</i></p> <p>Required Courses:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%;">CVS 160</td><td style="width: 65%;">CVS Clinical Education I</td><td style="width: 20%; text-align: right;">5 SHC</td></tr> <tr><td>CVS 161</td><td>CVS Clinical Education II</td><td style="text-align: right;">8 SHC</td></tr> <tr><td>CVS 162</td><td>CVS Clinical Education III</td><td style="text-align: right;">5 SHC</td></tr> <tr><td>CVS 163</td><td>Echo I</td><td style="text-align: right;">4 SHC</td></tr> <tr><td>CVS 164</td><td>Echo II</td><td style="text-align: right;">4 SHC</td></tr> <tr><td>CVS 260</td><td>CVS Clinical Education IV</td><td style="text-align: right;">8 SHC</td></tr> <tr><td>CVS 261</td><td>CVS Clinical Education V</td><td style="text-align: right;">8 SHC</td></tr> <tr><td>SON 111</td><td>Sonographic Physics</td><td style="text-align: right;">4 SHC</td></tr> <tr><td>SON 250</td><td>Vascular Sonography</td><td style="text-align: right;">2 SHC</td></tr> </table> <p>Required Subject Areas: Anatomy and Physiology. Select one:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%;">BIO 163</td><td style="width: 65%;">Basic Anatomy & Physiology</td><td style="width: 20%; text-align: right;">5 SHC</td></tr> <tr><td>BIO 166</td><td>Anatomy and Physiology II</td><td style="text-align: right;">4 SHC</td></tr> <tr><td>BIO 169</td><td>Anatomy and Physiology II</td><td style="text-align: right;">4 SHC</td></tr> </table>	CVS 160	CVS Clinical Education I	5 SHC	CVS 161	CVS Clinical Education II	8 SHC	CVS 162	CVS Clinical Education III	5 SHC	CVS 163	Echo I	4 SHC	CVS 164	Echo II	4 SHC	CVS 260	CVS Clinical Education IV	8 SHC	CVS 261	CVS Clinical Education V	8 SHC	SON 111	Sonographic Physics	4 SHC	SON 250	Vascular Sonography	2 SHC	BIO 163	Basic Anatomy & Physiology	5 SHC	BIO 166	Anatomy and Physiology II	4 SHC	BIO 169	Anatomy and Physiology II	4 SHC	52-53 SHC	12 SHC	
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BIO 163	Basic Anatomy & Physiology	5 SHC																																					
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B. CONCENTRATION (Not applicable)																																							
<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i></p> <p>BIO, BUS, CHM, CIS, COE, COM, CSC, CVS, ENG, HSC, MAT, PHY, PSY, SOC, and SON</p> <p><i>Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.</i></p>																																							