

**STATE BOARD OF COMMUNITY COLLEGES**

**CURRICULUM PROGRAM APPLICATION  
(Existing Program)**

The State Board of Community Colleges is asked to approve the curriculum program at the listed college on the condition that equipment funds are available to the college and operating funds generated by the budget formula will permit the offering of this program without any special allocation of funds.

**South Piedmont Community College**  
Cardiovascular Sonography (A45160)

**Contact Person:**

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Academic Programs

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**PROGRAM APPLICATION  
SUMMARY EVALUATION REPORT  
South Piedmont Community College  
Cardiovascular Sonography (A45160)**

**I. Program Planning**

South Piedmont Community College is seeking approval for the Cardiovascular Sonography (A45160) program to begin Fall 2014. The planning area is defined as the college's service area of Anson and Union counties in addition to Cabarrus, Montgomery, and Richmond counties. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at South Piedmont Community College on October 3, 2013. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of South Piedmont Community College have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.
- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.
- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

**II. Program Rationale**

South Piedmont Community College (SPCC) indicates the following:

- Currently, South Piedmont Community College offers Medical Sonography (A45440). Area sonographers and SPCC alumni have requested SPCC to expand course offerings to include cardiovascular sonography. Employers are requiring sonographers to be credentialed in multiple specialties including vascular and cardiac. This requirement comes from increased legislation tying reimbursement to credentialing. (*SDMS Newswave February 2012*)
- Over the last eleven years, the Medical Sonography program at SPCC has graduated one hundred and fourteen students. Ninety-seven percent of their graduates obtained jobs within their field of study.
- The U.S. Bureau of Labor Statistics projects the need for credentialed sonographers to grow by forty-four percent between 2010 and 2020. During this same time period, cardiovascular jobs are expected to grow by twenty-nine percent.
- An electronic survey completed by SPCC determined that forty-one current sonography students and/or alumni were interested in this program.

- In July 2013, SPCC identified the following job vacancies within the state: eighteen openings for echocardiography, twenty-eight openings for vascular sonography, three openings for pediatric cardiography, and five openings for fetal echo sonography. (*Indeed.com*).

**III. Impact of the Proposed Program on Other Programs**

Four community colleges are approved to offer the Cardiovascular Sonography program. One college is approved to offer a similar program the Cardiovascular Technology (Invasive and Non-Invasive) program. An impact assessment was sent to each college. Initially, one college expressed objections due to a clinical site that may be utilized by SPCC. This issue has been resolved and the objection has been removed.

**IV. Implementation of Collaborative Plan**

Not Applicable

**V. Curriculum Design**

The proposed program of study is in compliance with the State Board approved curriculum standard.

**Coordinator:** Ms. Renee Batts

**C. Institutional Certification:** Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

**Institutional Certification**

This curriculum program Cardiovascular Sonography A45160  
(Program Title) (Program Code)

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

South Piedmont Community College  
(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

**(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)**

 12/16/2013  
Signature, President of College Date

 12-16-13  
Signature, Board of Trustees Chair Date

# 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 1D SBCCC 400.97(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-based learning 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.

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

*\*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. 1D SBCCC 400.97 (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-based learning 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.

### Cardiovascular Sonography A45160

	AAS	Diploma	Certificate																																				
<b>Minimum Major Hours Required</b>	<b>49 SHC</b>	<b>30 SHC</b>	<b>12 SHC</b>																																				
<p><b>A. CORE</b>  <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><b>Required Courses:</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>CVS 160</td><td>CVS Clinical Education I</td><td style="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><b>Required Subject Areas:</b>  <b>Anatomy and Physiology. Select one:</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>BIO 163</td><td>Basic Anatomy &amp; Physiology</td><td style="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	<b>52-53 SHC</b>	<b>12 SHC</b>	
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<b>B. CONCENTRATION</b> <i>(Not applicable)</i>																																							
<p><b>C. OTHER MAJOR HOURS</b>  <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, SON, and *WBL</p> <p><i>Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.</i></p> <p><i>*WBL prefix will be available in fall 2014.</i></p>																																							