

# Bachelor of Science in Health Professions: Cardiovascular Sonography (BS)

## Degree Type

Bachelor of Science

## Requirements for Graduation

This program prepares the student for a career in cardiovascular sonography with specialization in both adult cardiac sonography and vascular sonography. The graduate will be prepared to perform echocardiograms on adults. Echocardiograms are noninvasive exams that create an image of the heart. These images aid physicians in detecting certain heart conditions. The graduate will also be prepared to perform cerebral and peripheral vascular diagnostic evaluation of the arteries and veins which create images to aid the physician in the diagnosis of a wide variety of disorders affecting the peripheral vascular system, including stroke, peripheral vascular disease and venous abnormalities.

There is a strong emphasis on cardiovascular anatomy and physiology, cardiovascular hemodynamics and sound physics. Clinical experience is a major component of the program. Graduates of the program meet published requirements by the American Registry of Diagnostic Medical Sonographers (ARDMS) to apply for the registry examination in Adult Echocardiography and Vascular Technology.

Students are divided into two cohort groups—Vascular and Adult Cardiac. This will determine which specialty they take first in their curriculum plan. The purpose of dividing into cohort groups is to maximize the use of available clinical sites. Students will take Skills Enhancement I and II while they are taking core courses in the second specialty to maintain skills they learned in the first specialty. This program is designed to be completed in eight semesters and three summers.

## Program Goal

To prepare competent entry-level cardiovascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for adult echocardiography and to prepare competent entry-level cardiovascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for noninvasive vascular study.

## Program Outcomes

Upon completion of the dual major the student will be able to:

1. Competently perform as an entry level sonographer in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for adult cardiac sonography and vascular sonography.
2. Demonstrate ethical and professional behavior through sonographic practice congruent with standards of practice.
3. Meet the eligibility requirements to apply for the American Registry of Diagnostic Medical Sonographers (ARDMS) exams.
4. Interact effectively with individuals in a manner that reflects caring and acknowledges the holistic nature of individuals.
5. Promote growth of the health professional and awareness of health professions through education of individual groups and communities of interest.
6. Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and services.

# Program Requirements

## Program Requirements

Each student must complete a minimum of 44 credit hours in general education and 81 credit hours in the major. Official transcript(s) must be on file for all transfer credits.

## General Education Courses

*Students who have transferred in 36 or more credit hours will take GSTU101X.*

Item #	Title	Credits
GSTU101	Introduction to the Bryan College of Health Sciences Experience	1
HIMS100	Medical Terminology	1
NURA102X	Basic Nursing Assistant (non-credit)	

## Communications

### Communications

*Must complete 3 cr hrs from COMM courses.*

Item #	Title	Credits
	Communications Elective	3

## Cultural Studies

### Cultural Studies

*Must complete 3 cr hrs from elective*

*pool.* ([GERO303](#), [INTL202-2](#), [INTL202-3](#), [INTL205-2](#), [INTL205-3](#), [PBHL305](#), [RELI215](#), [RELI316](#), [SIGN111](#), [SOCI222](#), [SOCI320](#), [SOCI324](#), [SPAN](#)

Item #	Title	Credits
	General Elective with Cultural Studies (CS) designation	3

## Business/Management

### Business/Management

*Must complete 3 cr hrs from ECON or MGMT courses.*

Item #	Title	Credits
	Business Management Elective	3

# Humanities

## Humanities

*Must complete 3 cr hrs from elective pool (ENGL, HIST, HUMS, INTL, PHIL, RELI, SIGN, SPAN)*

Item #	Title	Credits
ENGL104	English Composition I	3
PHIL210	Ethics in Health Care	3
	Humanities Elective	3

# Mathematics

## Mathematics

*Must complete all course listed.*

Item #	Title	Credits
MATH155	College Algebra	3
STAT210	Elements of Statistics	3

# Natural Sciences

## Natural Sciences

*Must complete all course listed.*

Item #	Title	Credits
BIOS203	Anatomy & Physiology I	4
BIOS204	Anatomy & Physiology II	4
PHYS105	Descriptive Physics (with lab)	4

# Social Sciences

## Social Sciences

*Must complete 6 cr hrs from electives (GERO, INTL, PBHL, PSYC, SOCI).*

Item #	Title	Credits
	Social Science Electives	6

# Major-Cardiovascular Sonography

## Major-Cardiovascular Sonography

Item #	Title	Credits
AHAL223	Physics and Instrumentation	4
AHAL313	Research in Healthcare	2
AHAL314	Issues and Trends in Health Professions	2
CARD312	Adult Cardiac Sonography Skills I	1
CARD314	Adult Cardiac Sonography Skills II	1
CARD340	Core I: Adult Cardiac Sonography	6
CARD345	Adult Cardiac Sonography Clinical Experience	0.5
CARD347	Core II: Adult Cardiac Sonography	6
CARD430	ACS Board Review	1
CVTD226	Cardiovascular Physiology	4
CVTD230	Principles of EKG	3
CVTD303	Skills Enhancement I	1
CVTD305	Skills Enhancement II	1
CVTD341	Clinical Practicum I	4
CVTD350	Clinical Practicum II	7
CVTD416	Clinical Practicum III	9.5
CVTD425	Clinical Practicum IV-B	11.5
CVTD430	Senior Capstone I	0.5
CVTD435	Senior Capstone II	0.5
VASC315	Vascular Sonography Skills I	1
VASC316	Vascular Sonography Skills II	1
VASC341	Core I: Vascular Sonography	7
VASC343	Core II: Vascular Sonography	5
VASC347	Vascular Sonography Clinical Experience	0.5
VASC430	VASC Board Review	1

## Sample Curriculum Plan

### Sample Curriculum Plan

*Sample curriculum plan for traditional first year student with no transfer credit.*

### Course Sequencing

## Year 1

Year 1

# Fall

Fall

Item #	Title	Credits
BIOS203	Anatomy & Physiology I	4
ENGL104	English Composition I	3
GSTU101	Introduction to the Bryan College of Health Sciences Experience	1
MATH155	College Algebra	3
	Social Science Elective	3
NURA102X	Basic Nursing Assistant (non-credit)	

# Spring

Spring

CVTD230 = \*Courses in the Major

Item #	Title	Credits
BIOS204	Anatomy & Physiology II	4
CVTD230	Principles of EKG	3
HIMS100	Medical Terminology	1
PHYS105	Descriptive Physics (with lab)	4

# Summer

Summer

AHAL 223, CVTD 226 = \*Courses in the Major

Item #	Title	Credits
AHAL223	Physics and Instrumentation	4
CVTD226	Cardiovascular Physiology	4

# Year 2

Year 2

Years 2 and 3 of the CARD and VASC courses can be interchangeable based on faculty discretion.

# Fall

Fall

CARD 312, CARD 340 = \*Courses in the Major

Item #	Title	Credits
CARD312	Adult Cardiac Sonography Skills I	1
CARD340	Core I: Adult Cardiac Sonography	6
	Communications Elective	3
STAT210	Elements of Statistics	3

# Spring

Spring

CARD 314, CARD 345, CARD 347 = \*Courses in the Major

Item #	Title	Credits
CARD314	Adult Cardiac Sonography Skills II	1
CARD345	Adult Cardiac Sonography Clinical Experience	0.5
CARD347	Core II: Adult Cardiac Sonography	6
	Humanities Elective	3
PHIL210	Ethics in Health Care	3

# Summer

Summer

CVTD 341 = \*Courses in the Major

Item #	Title	Credits
	Business Management Elective	3
CVTD341	Clinical Practicum I	4

# Year 3

Year 3

Years 2 and 3 of the CARD and VASC courses can be interchangeable based on faculty discretion.

# Fall

Fall

AHAL 313, CVTD 303, VASC 315, VASC 341 = \*Courses in the Major

Item #	Title	Credits
AHAL313	Research in Healthcare	2
CVTD303	Skills Enhancement I	1
VASC315	Vascular Sonography Skills I	1
VASC341	Core I: Vascular Sonography	7
	Social Sciences Elective (Upper Level)	3

# Spring

Spring

AHAL 314, CVTD 302, VASC 316, VASC 343, VASC 347 = \*Courses in the Major

*Cultural Studies elective needs to be in social sciences if the requirement is not met.*

Item #	Title	Credits
AHAL314	Issues and Trends in Health Professions	2
CVTD305	Skills Enhancement II	1
VASC316	Vascular Sonography Skills II	1
VASC343	Core II: Vascular Sonography	5
VASC347	Vascular Sonography Clinical Experience	0.5
	Cultural Studies Elective	3

# Summer

Summer

CVTD 350 = \*Courses in the Major

Item #	Title	Credits
CVTD350	Clinical Practicum II	7

# Year 4

Year 4

# Fall

## Fall

CARD 430, CVTD 416, CVTD 430, VASC 430 = \*Courses in the Major

Item #	Title	Credits
CARD430	ACS Board Review	1
CVTD416	Clinical Practicum III	9.5
CVTD430	Senior Capstone I	0.5
VASC430	VASC Board Review	1

# Spring

## Spring

CVTD 425, CVTD435 = \*Courses in the Major

Item #	Title	Credits
CVTD425	Clinical Practicum IV-B	11.5
CVTD435	Senior Capstone II	0.5
	<b>Total Credits</b>	<b>12.5</b>