

# CARDIOVASCULAR TECHNOLOGY, ASSOCIATE IN SCIENCE DEGREE

**Banner Code:** 1\_AS\_CVT

**Control Number:** 04043

**Financial Aid Eligible**

Cardiovascular Technology (CVT) is an adult cardiac sonography allied health profession concerned with the diagnosis and treatment of patients with cardiovascular disease. The cardiac sonographer performs exams at the request of a physician to obtain information about the patient's heart anatomy and function so the physician can make a diagnosis. The cardiovascular sonographer performs these studies and electrocardiographic (ECG) procedures. The information obtained from these clinical studies is used by the cardiologist to evaluate patients for cardiovascular disease and design a comprehensive treatment plan. Cardiovascular sonographers perform the studies, operate various electronic diagnostic instruments, prepare preliminary reports and calculate clinical information for interpretation by the cardiologist. The CVT program provides the necessary classroom and clinical courses to allow graduates to work as cardiovascular sonographers and/or ECG specialists.

**Program Admission:**

1. Completion of Associate of Science degree required Mathematics and General Education requirements.
2. Course Prerequisites:
  - a. ALH A010 Health Occupations (Program Application Submission)
  - b. ALH A111 Medical Terminology
  - c. BIOL A221 Anatomy-Physiology

**Program Requirements:**

- Students must earn a minimum grade of 70%, C or better in all courses for acceptance and continuation in the program
- Current BLS/CPR certification, current proof of immunizations (as listed in the School of Allied Health Programs Manual), drug screening, and background check.
- Prior knowledge of the field is not a requirement to start the program

## Program Outcome

To prepare students for entry-level employment by preparing students in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains as professional and competent Cardiovascular Technologists to meet the needs of the local health care community. Graduates can work in hospitals, medical centers, physician offices and clinics, research centers, and privately- owned companies contracting with medical facilities.

Review Graduation Requirements (<https://catalog.cccd.edu/orange-coast/graduation-requirements/associate-degree/>) and General Education (<https://catalog.cccd.edu/orange-coast/general-education-patterns/>).

## Required Prerequisites

Course	Title	Units
ALH A010	Health Occupations	0.5
ALH A111	Medical Terminology	3
BIOL A221	Anatomy-Physiology	4

## Required Courses

Course	Title	Units
ALH A115	Patient Care	2
ALH A120	Human Diseases	2
CVT A100	Introduction to Electrocardiography	2
CVT A130	Introduction to Invasive Cardiology	3
CVT A150	Advanced Electrocardiography	2
CVT A160	Cardiac Anatomy/Pathophysiology	3
CVT A170	ECG Clinical Experience	5
CVT A190	Introduction to Sonography and Imaging Physics	3
CVT A200	Introduction to Echocardiography	3
CVT A205	Introduction to Echocardiography Lab	1
CVT A210	Echocardiography Clinical Lab 1	5.5
CVT A220	Ultrasound Sonographic Physics and Instrumentation	3.5
CVT A224	Echocardiography Clinical Lab 2	1
CVT A250	Advanced Echocardiography	3
CVT A255	Advanced Echocardiography Lab	1
CVT A260	Cerebrovascular and Peripheral Ultrasound	2.5
CVT A265	Echocardiography Clinical Lab 3	8

**Total Units** **50.5**

Requirement	Units
Prerequisite Units	7.5
Program Major Units	50.5
AS General Education Option 1, 2, or 3	Varies
<b>Total Minimum Degree Units</b>	<b>73</b>

## Program Sequence

These sequences at Orange Coast College are general course curriculum maps for students to finish all major and general education requirements for two-year completion of degrees, and/or fulfillment of transfer requirements. The course sequence may include course prerequisites and other placement requirements. **Students are advised to meet with an Orange Coast College Counselor to review course selections and sequences to ensure that completion of this program will meet a student's transfer and career goals.**

Course	Title	Units
<b>Year 1</b>		
<b>Semester 1</b>		
ALH A010	Health Occupations	0.5
BIOL A221	Anatomy-Physiology	4
OCC AS GE AREA A1 - CHOOSE ONE		3
OCC AS GE AREA C1 - CHOOSE ONE		3
OCC AS GE AREA D - CHOOSE ONE		3
<b>Units</b>		<b>13.5</b>

Course	Title	Units
<b>Semester 2</b>		
ALH A111	Medical Terminology	3
OCC AS GE AREA A2 - CHOOSE ONE <sup>1</sup>		3-4
OCC AS GE AREA C2 - CHOOSE ONE		3
Select one of the following or satisfy Math competency (completion of High School Algebra 2 with a "C" or better):		0-4
MATH A030 or MATH A045	Intermediate Algebra (or higher) <sup>2</sup> or Combined Elementary and Intermediate Algebra	
<b>Units</b>		<b>9-14</b>
<b>Year 2</b>		
<b>Semester 1</b>		
Acceptance into the OCC Echocardiography and Vascular Ultrasound Program Required (Cohort Restriction)		
ALH A115	Patient Care	2
ALH A120	Human Diseases	2
CVT A100	Introduction to Electrocardiography	2
CVT A160	Cardiac Anatomy/Pathophysiology	3
<b>Units</b>		<b>9</b>
<b>Semester 2</b>		
CVT A130	Introduction to Invasive Cardiology	3
CVT A150	Advanced Electrocardiography	2
CVT A170	ECG Clinical Experience	5
CVT A190	Introduction to Sonography and Imaging Physics	3
<b>Units</b>		<b>13</b>
<b>Year 3</b>		
<b>Semester 1</b>		
CVT A200	Introduction to Echocardiography	3
CVT A205	Introduction to Echocardiography Lab	1
CVT A210	Echocardiography Clinical Lab 1	5.5
CVT A220	Ultrasound Sonographic Physics and Instrumentation	3.5
<b>Units</b>		<b>13</b>
<b>Semester 2</b>		
CVT A250	Advanced Echocardiography	3
CVT A255	Advanced Echocardiography Lab	1
CVT A260	Cerebrovascular and Peripheral Ultrasound	2.5
CVT A265	Echocardiography Clinical Lab 3	8
<b>Units</b>		<b>14.5</b>
<b>Intersession</b>		
CVT A224	Echocardiography Clinical Lab 2	1
<b>Units</b>		<b>1</b>
<b>Total Units</b>		<b>73-78</b>

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Highly recommended for Allied Health programs, some state licenses will require Algebra 2 or higher-level math to be completed at the college level. If MATH 100+ level or above (any math, except MATH A220) is taken, then it also meets OCC AS GE AREA A2.

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OCC AS GE AREA A2 - Required if 100-level MATH was not taken prior to meet Math competency.