

# CARDIAC SONOGRAPHY

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The Cardiac Sonography degree program is designed to prepare students for an entry-level position as a Cardiac Sonographer in a hospital setting, doctor's office or a diagnostic imaging facility. Through their course of study, students will become competent in cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains along with being able to apply their critical thinking, problem-solving and communication skills in the work environment.

Program is designed to be completed in two years, including summer semesters. Instructions include on-campus and online lectures, on-campus laboratory practicum and a two-semester clinical externship. Students are required to complete 896 hours of externship in an assigned clinical facility.

Clinical externship is offered in a variety of health care settings in the community. Students must provide their own transportation between the college campus and the clinical agencies.

The curriculum meets the requirements of the Cardiovascular Credentialing International (CCI).

Upon successful completion of the Cardiac Sonography program, students will be eligible to take the Registered Cardiac Sonographer (RCS), section RCS5, registry board examination under Cardiovascular Credentialing International.

All Cardiac Sonography (CDS) courses must be completed at Oakton. Cardiac Sonography coursework from other institutions is not accepted. Students must receive a minimum grade of C in all CDS courses.

This is a limited enrollment curriculum. For more information, contact the Division of Health Careers at 847.635.1684 or [healthcareers@oakton.edu](mailto:healthcareers@oakton.edu).

## Admission Requirements:

1. High school graduation or High School Equivalency Certificate<sup>1</sup>. Foreign high school graduates or students with foreign college credits need to send English translated copies of their transcripts to Educational Perspectives, [www.edperspective.org/oakton](http://www.edperspective.org/oakton). Students with foreign college credit should request a catalog match.
2. High school GPA of 2.0 or higher.
3. EGL 101 placement based on Oakton's Writing Skills Assessment Test (WSAT), or completion of EGL 101.
4. One year of high school biology or one semester of college biology or equivalent with a minimum grade of C within the past five years.
5. Completion of the following courses with minimum grades of C:
  - MAT 140 College Algebra
  - PHY 101 Applied Physics
6. Satisfactory interview with the chair of Cardiac Sonography program director.

<sup>1</sup> As of January 1, 2023, the High School Equivalency Certificate became the State of Illinois High School Diploma. High School Equivalency credentials received prior to that date remain valid.

Health Career curricula are governed by specific objectives, rules and regulations formulated by the College, accrediting bodies and participating clinical facilities. Students should familiarize themselves

with these standards. Students should also be aware that failure to maintain satisfactory progress in technical courses may significantly delay completion of the curriculum or may result in the student being dropped from the curriculum. Each student's right to participation in the clinical portion of the curriculum is also contingent upon compliance with the rules of the clinical facility. The clinical facility has sole discretion to determine when its rules have been violated.

Clinical placements require a health assessment, certain immunizations, yearly vaccines, substance abuse testing, criminal background check, specific skill certification (i.e., CPR/BLS) and health insurance. The requirements represent an additional cost to the student.

All Oakton College Health Career students in a program with a clinical component must have "clear" criminal background checks and drug screens in order to participate in any and all clinical components of any health career program courses.

To comply with state statutes and clinical affiliation agreements, and to provide a safe environment for students, employees, and patients cared for by students, those accepted into Oakton's health career programs will be required to complete a criminal background check and drug screening through a company contracted by the College. Health Career students will be charged a fee for this service.

Timelines for completing criminal background checks and drug screens may vary among the various programs. Deadline dates for each program will be provided by the individual department chairs at the time of a student's acceptance into a health career program.

Students without a clear criminal background check and/or clear drug screen will not be allowed to enroll in clinical practicum courses or attend clinical programs. This would further necessitate that the student withdraws from the health career program at that time.

Students who refuse a criminal background check and/or drug screen will not be considered "clear" and will not be authorized to participate in the clinical component of the health career program, necessitating withdrawal from the program at that time. Individual results of student background checks and drug screens are considered confidential.

Determination of whether or not a student can participate in the clinical component of a particular health career program will be communicated to the respective department chairs by the Background Check/Drug Screen vendor. Students may view their personal results on the vendor's website.

## Cardiac Sonography A.A.S.

72 Semester Credit Hours; Curriculum: 0332 (*pending ICCB and IBHE approval*)

**Note:** Refer to IAI General Education Courses page for guidelines on General Education course selection.

Code	Title	Hours
<b>General Education Requirements</b>		
<i>Area A — Communications</i>		
EGL 101	Composition I	3
<i>Area B — Mathematics</i>		
MAT 140	College Algebra	4
<i>Area C — Science</i>		
BIO 114	Basic Human Anatomy and Physiology	3
PHY 101	Applied Physics	4
<i>Area D — Social and Behavioral Sciences</i>		

SOC 103	Social Problems	3
<i>Area E - Humanities/Fine Arts</i>		
No course needed		
<i>Area F — Global Studies</i>		
Satisfied by SOC 103		0-3
<i>Area G — U.S. Diversity Studies</i>		
Satisfied by SOC 103		0-3
<b>Total Hours</b>		<b>17</b>

Code	Title	Hours
<b>Major Requirements</b>		
CDS 100	Medical Terminology for the Cardiac Sonographer	1
CDS 101	Introduction to Sonography and Patient Care	2
CDS 102	Basic EKG for the Cardiac Sonographer	1
CDS 103	Anatomy and Physiology for the Cardiac Sonographer	3
CDS 104	Doppler Physics and Hemodynamics for the Cardiac Sonographer	3
CDS 105	Ultrasound Physics and Instrumentation I	3
CDS 106	Cardiac Sonography I	3
CDS 107	Cardiac Sonography Lab Practicum I	3
CDS 108	Cardiac Sonography Lab Practicum II	6
CDS 201	Ultrasound Physics and Instrumentation II	3
CDS 202	Cardiac Sonography Lab Practicum III	3
CDS 204	Cardiac Sonography II	3
CDS 205	Registry Review and Advancing Trends in Cardiac Sonography	3
CDS 206	Ultrasound Physics and Instrumentation Review	3
CDS 207	Pharmacology for the Cardiac Sonographer	1
CDS 208	Cardiac Sonography Clinical Externship I	6
CDS 209	Cardiac Sonography Clinical Externship II	8
<b>Total Hours</b>		<b>55</b>

## Cardiac Sonography Pathway

The following Pathway is recommended for students pursuing an Associate in Applied Science degree in Cardiac Sonography.

For more information on recommended courses or program specific advising, contact the Health Career Specialist at 847.635.1844, or the Division of Health Careers at 847.635.1684. **General Education courses should be selected from the list of IAI General Education Courses.**

See Cardiac Sonography Program Overview (p. 1) for Admission Requirements.

Code	Title	Hours
<b>Program Prerequisites</b>		
MAT 140	College Algebra	4
PHY 101	Applied Physics	4
<b>Total Hours</b>		<b>8</b>
<b>First Year</b>		
<b>Semester One (Summer)</b>		<b>Hours</b>
BIO 114	Basic Human Anatomy and Physiology	3
CDS 100	Medical Terminology for the Cardiac Sonographer	1
<b>Hours</b>		<b>4</b>

<b>Semester Two (Fall)</b>		
CDS 101	Introduction to Sonography and Patient Care	2
CDS 102	Basic EKG for the Cardiac Sonographer	1
CDS 103	Anatomy and Physiology for the Cardiac Sonographer	3
CDS 104	Doppler Physics and Hemodynamics for the Cardiac Sonographer	3
CDS 107	Cardiac Sonography Lab Practicum I	3
<b>Hours</b>		<b>12</b>
<b>Semester Three (Spring)</b>		
EGL 101	Composition I	3
CDS 105	Ultrasound Physics and Instrumentation I	3
CDS 106	Cardiac Sonography I	3
CDS 108	Cardiac Sonography Lab Practicum II	6
<b>Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Semester One (Summer)</b>		
CDS 201	Ultrasound Physics and Instrumentation II	3
SOC 103	Social Problems <sup>1</sup>	3
<b>Hours</b>		<b>6</b>
<b>Semester Two (Fall)</b>		
CDS 202	Cardiac Sonography Lab Practicum III	3
CDS 204	Cardiac Sonography II	3
CDS 206	Ultrasound Physics and Instrumentation Review	3
CDS 208	Cardiac Sonography Clinical Externship I	6
<b>Hours</b>		<b>15</b>
<b>Semester Three (Spring)</b>		
CDS 205	Registry Review and Advancing Trends in Cardiac Sonography	3
CDS 207	Pharmacology for the Cardiac Sonographer	1
CDS 209	Cardiac Sonography Clinical Externship II	8
<b>Hours</b>		<b>12</b>
<b>Total Hours</b>		<b>64</b>

<sup>1</sup> Course fulfills the Global Studies and U.S. Diversity Studies requirements. At least one Global Studies and one U.S. Diversity Studies course are required for degree completion.

## Program Learning Outcomes

Upon successful completion of the Cardiac Sonography A.A.S., students will be able to:

- Identify and measure anatomical cardiac structures within the heart by using imaging modalities obtained from the parasternal, apical, subcostal and suprasternal views.
- Identify and explain cardiac anomalies located within the heart structures versus normal anatomical cardiac structures.
- Discuss concepts of cardiac knobology as it applies to ultrasound equipment, transducers and peripherals.
- Utilize critical thinking and problem-solving skills to demonstrate proficiency in performing the following protocols:
  - Transthoracic echocardiogram
  - Transesophageal echocardiogram
  - Pharmacological stress echocardiogram
  - Exercise stress echocardiogram
  - Contrast echocardiogram
- Summarize and document cardiac diagnostic procedural results including, but not limited to, patient history, supporting clinical data along with any other pertinent information on the imaging facility's archival system for the interpreting cardiologist.

6. Show respect and maintain patient privacy when performing any cardiac diagnostic procedures.
7. Use professional job-related communication with patients, physicians, and medical staff.
8. Explain cardiac ultrasound diagnostic procedure to patients or patient representative/advocate.
9. Demonstrate ergonomically correct scanning techniques/posture throughout all cardiac procedures to avoid work-related injuries.
10. Become eligible to sit for the cardiac sonography registry board examination under Cardiovascular Credentialing International (CCI).