



## SCHOOL OF CARDIAC & VASCULAR ULTRASOUND

# CATALOG

### **2024 Program Dates – Spring Term:**

**Cardiac Ultrasound:** April 8, 2024 - March 31, 2025

*Phoenix, AZ only*

Arizona Heart Foundation School of Cardiac & Vascular Ultrasound  
Main Campus  
1313 E. Osborn Rd. - Suite 225  
Phoenix, AZ 85014  
Phone: 602-200-0437  
[www.azheartfoundation.edu](http://www.azheartfoundation.edu)

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## **GENERAL INFORMATION**

### History and Ownership

The Arizona Heart Foundation was established in 1971 by Edward B. Diethrich, MD, an internationally renowned cardiovascular surgeon, to develop and support cardiovascular research and education programs.

Dr. Diethrich established the Arizona Heart Foundation School of Cardiac Ultrasound in 1982 as one of the first programs in the United States dedicated to the development of tomorrow's sonographers. The program has evolved to include the ever-changing field of vascular sonography and is now known as the Arizona Heart Foundation School of Cardiac & Vascular Ultrasound.

Comprehensive 12-month programs in cardiac and vascular ultrasound are offered multiple times a year and include classroom instruction, extensive hands-on scanning experience, and clinical rotations. The programs are designed for individuals currently working in the medical field or who are considering entering the profession. Our faculty's expertise, coupled with small class sizes, not only prepares our students for the national registry exams but also results in graduates with a discernible difference. Our graduates provide quality patient care, possess leadership qualities, and dedicate themselves as life-long learners.

Throughout the past fifty-three years, the Foundation has prioritized educational programs focusing on heart disease. In addition to the ultrasound programs, the Foundation has provided education for cardiovascular nurse specialists, vascular surgeons, cardiologists, fellows, and pre-med college students, as well as free programs for the local community.

### Mission

The mission of the school is to prepare graduates with a complete educational experience to become cardiac or vascular professional sonographers. The program provides each student opportunities to learn and develop communication skills, critical thinking, and technical skills that adapt to changing technologies in sonography, professional development, and interpersonal skills. The school enhances academic integrity and acceptable professional behavior with skills necessary to perform in the healthcare environment as a Registered Cardiac Sonographer (RCS) or Registered Vascular Sonographer (RVS).

### Facilities

The school's main campus is centrally located in Phoenix, Arizona, and houses the school, with its classroom and labs, and its administrative offices. The main campus maintains a student library and computer lab, a dedicated entrance, and free parking. A student lounge has a refrigerator, sink, microwave and vending machine.

The school also has a separate educational center (SEC) located at 310 S. Williams Blvd., Suite 250, Tucson, Arizona 85711. This SEC has a classroom and separate skills lab, as well a dedicated entrance, and free parking. A student lounge has a refrigerator, sink, and microwave. All administrative functions for the SEC are handled by the main campus.

### Student Services

The school is committed to providing services to students to aid in the development of their academic, personal, and professional goals. The facility and classroom are completely accessible for all students who may need assistance. Students are encouraged to meet with faculty, exchange ideas, and be a part of our advisory boards. Our library is available five days a week and includes books and publications, a place for quiet study time, computers, and internet access. Computer desktops have shortcuts to societies as well as learning and job placement websites. A job posting board is updated regularly. Assistance with resume preparation and with developing appropriate interview skills are also available.

Students are encouraged to take advantage of open lab times. Open lab times are posted twice a month, and students can attend individually or in study groups. Tutoring services are available at no additional cost to the student.

### License

The school is licensed by the Arizona State Board for Private Postsecondary Education. The mission of the state agency is to “To protect the health, safety, and welfare of Arizona citizens by regulating private postsecondary educational institutions and providing services to their students.” (<http://ppse.az.gov>)

### Accreditation

The school is institutionally accredited by the Accrediting Bureau of Health Education Schools (ABHES), 6116 Executive Blvd, Suite 730, North Bethesda, MD 20852; 301-291-7550. The School is not programmatically accredited by CAAHEP.

### Registries

All registries are independent agencies, and qualifications for taking registry examinations are subject to change. Applicants should research the American Registry of Diagnostic Medical Sonography, ([ARDMS.org](http://ARDMS.org)) and/or Cardiac Credentialing International ([CCI.org](http://CCI.org)) for specific qualifications.

### Employment

The school does not guarantee job placement to graduates upon program completion and graduation.

### Catalog

All statements in this catalog reflect the approved policies of the school that were in effect at the time of publication. However, the school reserves the right to supplement, change, suspend, or cancel any of the provisions, statements, policies, curricula, procedures, schedules, or fees at any time. The school will publish such changes, suspensions, or cancellations as soon as reasonably practicable.

## **GOVERNING BODY**

### Arizona Heart Foundation Board of Trustees

#### **Officers**

Donald Reid, MD  
Wishaw Hospital, Scotland  
Medical Director

Paula Banahan, RN, BSN, CVNS  
Arizona Heart Foundation  
President and CEO

Michael Gallagher  
(Business Owner in AZ for over 20 years)  
Secretary

Sean Kerrigan, BBA  
Arizona Heart Foundation  
Chief Financial Officer

#### **Members**

Kris Vijay, MD  
President, Twinepidemic

Anil Kumar, MD  
Director, Cardiovascular Imaging  
Dignity Health: Yavapai Regional Medical Center

Adam Turner  
(Philanthropic Partner for the Valley Athletic  
Booster Club)

Steve Nadon  
(Business Owner / Entrepreneur in CA and AZ  
for over 35 years)

Carter Wilcoxson  
Founder & President, CSI Financial Group

## School of Cardiac & Vascular Ultrasound – Cardiac Ultrasound Advisory Board

Kris Vijay, MD  
**Cardiac Program Medical Director**

Dr. Vijay is a heart failure clinical cardiologist. He has the unique credential of being one of the few cardiorenal metabolic specialist in the US and around the world. He was recently the Medical Director of the Institute of Congestive Heart Failure at Abrazo Arizona Heart Hospital and Abrazo Health Network in Arizona and is now the President of Twinepidemics.

### **Members**

Kanaan Abow Alkhier, MD, RVT, RCS, RPVI

Paula Banahan, RN, BSN, CVNS

Milind Gupta, BS  
(Spent 5 years at AZ Heart Institute)

Eileen Spengler, BS, RCS

Gary Goldberg, MD, RDCS

Devin Heard, AAS, RCS, RVS, CCT

Valerie Cavazos, RDCS, RVT

Mikel Gutierrez, RCS

Mace Ross, MS, RDCS

Sean Kerrigan, BBA

Abigail Gorman, Current Cardiac Ultrasound Student

## School of Cardiac & Vascular Ultrasound – Vascular Ultrasound Advisory Board

Kanaan Abow Alkhier, MD, RPVI, RVS, RCS  
**Vascular Program Medical Director**

Dr. Alkhier has been fully involved in imaging for more than 17 years and in medicine for more than 23 years and is currently the Medical Director at American Pride Imaging Services. Dr. Alkhier is a graduate of the AZ Heart Foundation School of Cardiac & Vascular Ultrasound.

### **Members**

Kanaan Abow Alkhier, MD, RPVI, RCS, RVS

Paula Banahan, RN, BSN, CVNS

Devin Heard, AAS, RCS, CCT

Sean Kerrigan, BBA

Gail Size, BS, RPhS, RVS, RVT

Mikel Gutierrez, RCS

Pamela Brower, BHSc, RVT, RVS

Susie York, RVS & Vascular Ultrasound Graduate

Valerie Cavazos, RDCS, RVT

Marissa Williams, Current Vascular Ultrasound Student

## School of Cardiac & Vascular Ultrasound Officials and Faculty

Paula Banahan, RN, BSN, CVNS  
Dean  
Full-Time Employee

Ms. Banahan graduated magna cum laude with a Bachelor of Science Degree from Boston College School of Nursing and earned her Cardiovascular Nurse Specialist Certification from the Arizona Heart Institute. Paula has been in the healthcare industry for over 40 years and has held several nursing leadership and administrative positions. She developed Arizona's first heart and heart-lung transplant program and later became the executive director of the Arizona Heart Institute.

Eileen Spengler, BS, RCS  
Executive Director  
Program Director, Cardiac Program  
Co-Program Director, Vascular Program  
Full-Time Employee

Ms. Spengler began her career in Sonography at the Mayo Clinic in 1998. While there, Ms. Spengler graduated from AHF's School of Cardiac & Vascular Ultrasound in 2005. After leaving Mayo in 2006, Ms. Spengler started her own Sonography business before returning to post-secondary education as the Echocardiography Program Director at West Coast Ultrasound from 2009 - 2014. While at West Coast, Ms. Spengler obtained her bachelor's degree from the Oregon Institute of Technology. Since then, and before joining the School in July 2021, Ms. Spengler has been in private practice, including HonorHealth and Healthfinity. Ms. Spengler has also coordinated and performed heart screenings in the community and has received numerous awards and recognition for community outreach and advocacy in Sudden Cardiac Death in Athletes.

Ann Buettell, RT(R), RVT, RDMS  
(ABD)(OB/GYN)(B)  
Co-Program Director, Vascular Program  
Full-Time Employee

Ms. Buettell earned her AAS in Radiologic Technology in 2000 as well as an AAS in Diagnostic Ultrasound from the Medical Institute of Minnesota in 2001. She trained at the University of Minnesota and stayed on as an employee where she gained an extensive depth of knowledge in ultrasound. Ms. Buettell is experienced in multiple areas of ultrasound including breast, OB/GYN, pediatrics, pediatric vascular, abdominal, abdominal vascular, and peripheral vascular with an emphasis in pediatric and adult transplants. In 2013 she moved to Arizona and has worked at multiple locations within the state in outpatient clinics and hospital settings. She enjoys teaching and has been a clinical instructor for over 20 years.

Mikel Gutierrez, AOS, RCS  
Cardiac Ultrasound Instructor  
Full-Time Employee

Mr. Gutierrez earned his AAS in cardiac sonography in 2014 as well as a certificate of completion in Pediatric Cardiac Ultrasound in 2015 from West Coast Ultrasound Institute. Mr. Gutierrez has extensive sonography experience including Vascular Ultrasound where he has assisted in venous ablations in an ambulatory surgical center. Mr. Gutierrez works well in the team environment with excellent communication skills and possesses all qualities required when instructing students in lecture and laboratory settings.

Devin Heard, AAS, RCS, RVS, CCT  
Cardiac Ultrasound Instructor  
Full-Time Employee

Mr. Heard has been involved in medical education since 2012, when he graduated from an AOS program in Cardiovascular Ultrasound from West Coast Ultrasound Institute. Mr. Heard has served many roles in education, as a tutor and instructor's assistant as well as clinical preceptor. Mr. Heard completed a Pediatric Echocardiography certificate program in 2015. Mr. Heard's field experience includes travelling positions,

small clinics, outpatient centers and other independent contracts. Mr. Heard is well versed in the operations of independent clinics and can work independently or as part of a team.

Sumer Geyer, BS, RDCS (AE/PE), RVT  
Cardiac Ultrasound Instructor  
Full-Time Employee

Ms. Geyer has 20 years of scanning experience in both private practice and hospital settings. Ms. Geyer received her Associate's degree in Diagnostic Medical Sonography from Southern Nevada CC in 2005 and immediately got her Vascular (RVT) and RDCS (in Adult Echo and Pediatric Echocardiography) registries through ARDMS. Ms. Geyer, then, moved to Tucson, AZ, where she spent 7 years at Pima Heart before moving on to Banner UMC for 9 years. Ms. Geyer then obtained her Bachelor's degree in Diagnostic Medical Imaging from Oregon Institute of Technology in 2021. Ms. Geyer's experience over the years includes leadership roles as a lab coordinator, lead sonographer, clinic instructor, and a volunteer item writer for ARDMS.

Gail Size, BS, RPhS, RVS, RVT, FSVU  
Director of Accreditation

Ms. Size earned her Bachelor of Science Degree from St. Mary-of-the-Woods College in 1979 and has over 30 years of technical and managerial experience in both clinical and private vascular laboratories. She is the founder and president of Inside Ultrasound, Inc. Ms. Size has authored numerous publications, including the *Vascular Reference Guide* and *Venous Reference Guide*. She has given multiple presentations nationally and internationally and is on the board of trustees of Cardiovascular Credentialing International.

School of Cardiac & Vascular Ultrasound - Management and Administrative Staff

Paula Banahan, RN, BSN, CVNS  
Executive Director

Sean Kerrigan, BBA  
CFO & COO

Valerie Dickey  
Campus Administrator

**PROGRAMS OFFERED**

Cardiac and Vascular Ultrasound

Programs are 52 weeks, are only on campus, and are offered multiple times a year. The programs are based on clock hours, not credit hours, and do not account for any credit to clock hours conversion calculations. All courses are in English and held in person at the school except for clinical externships. Daily attendance is mandatory. Students must participate in all components of the program, including reporting to clinical sites as assigned. The school does not currently accept advanced placement and/or experiential learning credit.

Curriculum

The school follows the National Education Curriculum Common Curricula and its Specialty Curricula for Cardiac and Vascular Technology. The National Education Curriculum for Diagnostic Ultrasound can be found on all societal and the CAAHEP websites.



## Admission

The school provides access and equal opportunity to all qualified individuals who apply. Applicants must submit a completed application form, two letters of reference, and any educational transcripts or health care certificates; they must be at least 18 years of age and hold at least a high school diploma or GED. It is preferable but not required that applicants have an associate's or bachelor's degree or certificate in a patient/healthcare-related field. Every application is reviewed on an individual basis.

The school does not accept federal financial aid or participate in the "Ability to Benefit" (ATB) provision in the Higher Education Act (HEA).

Applicants desiring to complete the clinical component of a program out of state are encouraged to secure their own clinical site.

Applicants must be able to meet the physical demands required of a medical professional, which include but are not limited to lifting or turning patients, standing for extended periods of time, overhead stretching, bending, pushing, or pulling as needed.

### Tuition and Costs - Cardiac Ultrasound Program

Tuition:	\$29,900	Books/Supplies:	Included
Registration Fee:	\$ 200	Registry Exam Fee:	Included (one time only)

### Tuition and Costs - Vascular Ultrasound Program

Tuition:	\$29,900	Books/Supplies:	Included
Registration Fee:	\$ 200	Registry Exam Fee:	Included (one time only)

The school offers two (2) options for tuition payments. These options are available to all students:

- (1) Pay in full prior to the program start date and receive \$3,000 off the tuition cost shown above; payments can be made by cash or check, credit card, or a combination of two or more of these options.
- (2) Obtain a student loan prior to the program start date for the above tuition cost through the school's tuition financing partner, Meritize. Students will work directly with Meritize and can begin the application process by going to <https://apply.meritize.com>.

Please contact Sean Kerrigan, CFO, COO, (602-774-3445 or [skerrigan@azheartfoundation.org](mailto:skerrigan@azheartfoundation.org)) with any specific questions regarding tuition payments or for more information regarding Meritize.

Accepted applicants are notified via email and receive a packet including an enrollment agreement and information concerning required documentation and immunizations. The school catalog is available online or in hard copy if requested. Accepted applicants are then referred to as "Students".

### Fees and Enrollment Documentation

Upon acceptance to a program, and no later than one month prior to the program start date, students must submit the following:

- (1) Registration fee of \$200.00
- (2) Signed Acknowledgement of Receipt of School Catalog
- (3) Signed Enrollment Agreement

### Additional Expenses

Enrollment is contingent upon the following documents being complete and submitted no later than one month prior to the program start date. Any costs are the responsibility of the student.

- Fingerprint clearance card      - Valid and current BLS or ACLS card
- Clear background check          - Proof of medical insurance
- “Clear” or “Negative” grade on the student’s 12-panel drug screen test
- Any additional testing or documentation that may be required by a clinical site.

Documentation of all current immunizations must be on file by the first day of class. COVID-19 vaccinations are not mandated by the school but may be mandated by one or more clinical sites.

Failure to timely and satisfactorily meet the above requirements may result in a student’s enrollment in a program being suspended or cancelled by the school.

Students are responsible for their own housing, food, supplies, transportation, health insurance, and any other living expenses.

### Dress Code

Students should wear black scrubs while on school premises and at clinical sites. The following are considered inappropriate and unacceptable attire: open-toed shoes, tank tops, short shorts, mini-skirts, halter tops, midriff tops, t-shirts, visual display of undergarments, hats, artificial nails, wraps or extenders of any length, and any clothing, piercings or body art that may be offensive. All tattoos must be covered.

## **CANCELLATION AND REFUNDS**

### Denial of Admission or Enrollment

An applicant who is denied admission by the school and/or whose enrollment into a program is canceled by the school due to failure to successfully complete the enrollment process will receive a full refund of all monies paid. The school shall provide the refund no later than thirty (30) days after sending the written notice of denial of admission or cancellation of enrollment.

### Three-Day Cancellation

A student who delivers to the school’s Chief Operating Officer written notice of cancellation within three (3) days (excluding Saturday, Sunday and federal and state holidays) of signing the Enrollment Agreement is entitled to a full refund of all monies paid. The school shall provide the 100% refund no later than thirty (30) days after receiving the written notice of cancellation.

### Withdrawal Before Commencement of Program

A student who delivers to the school’s program director a written withdrawal before the start of the program will receive a refund of all monies paid toward tuition; however, the \$200.00 registration fee is then nonrefundable. The school shall provide the refund no later than thirty (30) days after receiving the written notice of withdrawal.

### Withdrawal After Commencement of Program

In the case of withdrawal by the student after commencement of the program in accordance with one of the circumstances described below, the tuition refund amount, if any, will be calculated based on the tuition refund schedule below and paid within thirty (30) days of the date of withdrawal. The \$200.00 registration fee is then non-refundable.

1. A student choosing to withdraw from the school after the commencement of classes is to provide written notice to the program director and the executive director of the school. The notice is to indicate the expected last date of attendance and be signed and dated by the student.
2. For a student who is on authorized leave of absence, the withdrawal date is the date the student was scheduled to return from the leave and failed to do so.
3. A student will be determined to be withdrawn from the institution if the student has not attended any class for 15 consecutive class days.
4. All refunds will be issued within 30 days of the determination of the withdrawal date.

Tuition Refund Schedule

<b>Clock Hours Attempted</b>	<b>Tuition Refund Amount</b>
10% or less	At least 90%
More than 10% and less than or equal to 25%	At least 50%
More than 25% and less than or equal to 50%	At least 25%
More than 50%	Refund will not be issued

Equipment, Books and Supplies

Required textbooks are provided by the program and may be kept by the student. Any additional equipment, supplies, library books, or materials provided by the program are the sole property of the program and must be returned upon completion of the program, withdrawal from the school, expulsion from the school, or as requested by the school’s program director, unless otherwise stated.

Holder in Due Course Statement

Any holder of this consumer credit contract is subject to all claims and defenses which the debtor could assert against the seller of goods or services obtained pursuant hereto or with the proceeds, hereof Recovery hereunder by the debtor shall not exceed amounts paid by the debtor (FTC Rule effective 5-1476).

IN THE EVENT A SPECIFIC CIRCUMSTANCE IS NOT ADDRESSED ABOVE, THE SCHOOL RESERVES THE RIGHT TO EXERCISE ITS DISCRETION AND DETERMINE WHETHER A REFUND, IN WHOLE OR IN PART, WILL BE PROVIDED TO THE STUDENT AND, IF SO, UNDER WHAT TIMELINE.

**ATTENDANCE**

The courses provided by the Arizona Heart Foundation are in an accelerated learning environment. Students must be available for every opportunity to enrich their education and, as such, an attendance policy is therefore required and enforced.

Attendance Policy during **Campus-based** Learning Initiatives:

To be considered "Present", a student must attend a minimum of 97% of class time. A normal classroom day consists of two 180-minute educational blocks and one 30-minute meal break.

A failure to appear at scheduled class-time, to appear following meal breaks or an early departure from campus of greater than 10 minutes will result in a record of "Absent" in the student's attendance registry.

If a student accrues four or more "Absent" records in their attendance registry, or if a student is habitually late for the start of class or habitually leaving early, that student will be subject to disciplinary action, including the possibility of suspension and/or expulsion.

An "Absent" record can be marked as "Excused" under specific circumstances, at the discretion of the Course Director.

These circumstances include the following:

- Bereavement
- Medical Emergency (with signed letterhead from a medical provider)
- Motor Vehicle Accident
- Religious Instruction / Attendance (not to exceed 5 hours per week)
- Required County / State Court Appearance
- Other (to be determined on a case-by-case basis with the Course Director)

**Attendance Policy during Clinical Rotation:**

Individual rotation times are to be negotiated with the site manager and externship preceptor. Once those times have been negotiated, the student will be provided with those times, and will be responsible for maintaining a prompt and reliable attendance.

A failure to appear at scheduled clinical times, to appear following meal breaks or an early departure from the clinical site of greater than 10 minutes will result in a record of "Absent" in the student's attendance registry.

If the student accrues two or more "absences" or fails to communicate an absence prior to their scheduled shift time, that student will be subject to disciplinary action, including removal from their clinical site.

An "Absent" record can be marked as "Excused" **only** by the express consent of the Program Director.

**AMERICANS WITH DISABILITIES (ADA) POLICY**

The school does not discriminate in admission or access to our Program based on age, race, color, sex, disability, religion, sexual orientation, national origin, or any other category protected by federal or state law. If you would like to request accommodation, please contact our ADA Compliance Coordinator prior to the beginning of classes. The school will work with the applicant or student to determine whether reasonable accommodations can be effective and/or are available.

Anyone requesting an accommodation, auxiliary aid, or service should:

1. Notify the Compliance Coordinator in writing of the type of accommodation needed, date needed, documentation of the nature and extent of the disability, and of the need for the accommodation or auxiliary aid. The request should be made at least four weeks in advance of the date needed.

ADA Compliance Coordinator:  
Valerie Dickey  
1313 E Osborn Rd, Suite 225, Phoenix, AZ 85014  
vdickey@azheartfoundation.org, 623-404-7131

2. The compliance coordinator will respond within two weeks of receiving the request.
3. If you would like to request a reconsideration of the decision regarding your request, please contact the compliance coordinator within one week of the date of the response. Please provide a statement of why and how you think the response should be modified.

**ADA GRIEVANCE PROCEDURE**

Any person who believes she/he has been subjected to discrimination based on disability or who wishes to appeal an approved accommodation pursuant to this policy may file a grievance as outlined on page 15 of this Catalog. The school does not retaliate against anyone who files a grievance in good faith or cooperates in the investigation of a grievance.

## **NON-DISCRIMINATION AND ANTI-HARASSMENT POLICY**

The school does not discriminate in admission or access to our programs based on age, race, color, sex, disability, religion, sexual orientation, national origin, or any other category protected by federal or state law. Arizona Heart Foundation is committed to maintaining an environment that is free of unlawful harassment and discrimination. In keeping with this commitment, the school has a zero-tolerance policy for any form of unlawful discrimination or harassment by anyone, including any supervisor, co-worker, non-employee or student. Harassment consists of unwelcome conduct, whether verbal, physical or visual, that is based on a person's race, color, national origin, religion, age, sex, disability, genetic information, marital status, veteran status, sexual orientation, gender identity or any other characteristic protected by law.

Harassment includes, but is not limited to, derogatory remarks, epithets, offensive jokes, the display, or circulation of offensive printed or visual material, or offensive physical actions directed at one of the above categories that unreasonably interferes with a person's working or learning environment or creates an intimidating, offensive, hostile environment.

Sexually harassing behavior includes, but is not limited to, unwelcome sexual advances, requests for sexual favors, or other physical, verbal, or visual conduct of a sexual nature. Such conduct may constitute sexual harassment when: (1) submission to the conduct is made an explicit or implicit term or condition of employment or is used as the basis for employment action affecting such individual; or (2) the conduct has the effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive workplace. This type of conduct may include, but is not limited to, sexual propositions, innuendo, suggestive comments, sexually oriented jokes or teasing, or unwelcome physical contact such as patting, pinching, or brushing against another.

All employees, staff members, and students are responsible for helping to enforce this policy against discrimination and harassment. If you believe the actions or words of a supervisor, co-worker, student, or a nonemployee constitute sexual harassment or other unlawful harassment or discrimination, you have a responsibility to promptly notify the President/CEO.

It is the school's policy to investigate all such complaints thoroughly, promptly, and as impartially as possible. To the fullest extent practicable, the school will maintain the confidentiality of those involved. If an investigation confirms that a violation of this policy has occurred, the school will take corrective action, which may include disciplinary action, up to and including termination. The school also forbids retaliation against anyone for reporting harassment or for cooperating in the investigation of a harassment complaint.

## **CODE OF CONDUCT**

Students are expected to meet the school's standards and expectations for academic and ethical performance and professional behavior when interfacing with the persons in the classroom and in the clinical setting. If a student is not meeting the academic and ethical standards, or the professional behavior standards of the school, the school will take the corrective or disciplinary action it considers appropriate depending on the totality of the circumstances. The various actions may include verbal warning, written warning, suspension, and/or immediate expulsion. The school reserves the right in each case to take the action it considers appropriate and in the best interests of the school.

Examples of circumstances under which a student may be subject to discipline, up to and including expulsion, include but are not limited to the following guidelines related to the school’s standards and expectations for academic and ethical performance, as well as professional behavior:

1. Academic Dishonesty - academic dishonesty is any word, action or deed performed alone, or with others for the direct or indirect intention of providing an unfair advantage or benefit to self or other student(s) including:

- cheating	- misrepresentation
- plagiarism	- giving or receiving illicit aid in class work or other work used as a basis for grading
- unapproved collaboration	
- alteration of records	- failure to report to Program Director observations of academic dishonesty by others
- bribery	
- lying	

2. Outstanding Fees- failure to timely pay tuition or other fees due to the school.
3. Code of Conduct - violation of the Code of Conduct.
4. Arriving to class or clinical site impaired by alcohol or with illegal drugs in your system; the manufacture, distribution, dispensation, possession, sale, purchase, transfer, or use of illegal drugs at school or the clinical site.
5. Significant Omissions or Errors in Admissions Documentation - knowingly misrepresenting one’s self in an application is subject to immediate expulsion.
6. Academic Failure - failing to achieve the required academic standing in the program.
7. Attendance - unless otherwise protected by law, failing to achieve the required attendance of the school and the assigned clinical site, including persistent tardiness.
8. Harassment or Discrimination - participating in harassing or discriminatory activities of any student, staff, clinical staff person, patient, client, or visitor to the school or clinical site.
9. Misuse of School Property - damaging, misusing, stealing, or otherwise using without permission the property of the school or assigned clinical site in a way that is prohibited.
10. Endangerment of Staff or Students - endangering the safety of themselves or others at the school or the assigned clinical site.
11. Disruptive, disorderly, violent, or threatening behavior at the school or the assigned clinical site.
12. Defiance of the authority of school administrators and instructors, as well as clinical site supervisors, instructors, and staff.
13. The harassment, bullying, demeaning, or otherwise oppression of Arizona Heart Foundation School of Cardiac & Vascular Ultrasound, its programs, faculty, staff, or other students.
14. Conduct detrimental to Arizona Heart Foundation School of Cardiac & Vascular Ultrasound, its programs, faculty, staff, or other students.
15. Actions that bring discredit to Arizona Heart Foundation School of Cardiac & Vascular Ultrasound.

### Illegal Drugs and Alcohol

Arizona Heart Foundation School of Cardiac & Vascular Ultrasound has a zero-tolerance policy for illegal substances on campus and at clinical sites. The school prohibits the unlawful use, possession, or distribution of controlled substances and alcohol by students and employees on the school’s property or as part of school activities. The school reserves the right to require random drug testing.

The school recognizes that alcoholism, drug addiction, and substance abuse may represent illnesses that require professional counseling, treatment, and rehabilitation. The abuse of alcohol or drugs can be hazardous to an individual’s health and safety, as well as an impediment to academic and personal success. Because the health and safety of students and employees are paramount to the school, those who are affected by alcohol and/or substance abuse are encouraged to utilize referrals provided by the school.

In addition to the above, in the case where the student has committed a crime or violation of the law, the school will notify law enforcement.

The school reserves the right to suspend or cancel the student's enrollment in the program at any time if, in the school's sole judgment, the student fails to comply with attendance requirements, academic standards, financial requirements, the school's Code of Conduct, zero-tolerance policy for illegal substances, or otherwise disrupts the normal activities of the school. If a student is expelled for any reason, there will be no reimbursement of tuition.

#### Return of Property

A student who is expelled is responsible for the return of any school property in his/her own possession within ten days and will be held financially responsible for any property not returned in good condition.

#### Notification of Expulsion

Students who are subject to expulsion for any reason will be notified in writing, either hand-delivered or by registered mail with a return receipt. There may or may not be an individual warning if the situation leading to expulsion has been discussed with the entire class. The school is not responsible for non-delivery by registered mail if the student has not provided a valid home address where the student currently resides.

The notification will contain a general description of the basis for expulsion and the effective date. Expelled students who dispute the facts of the expulsion must appeal the decision within three business days of the date of the notification. The appeal may be filed as outlined in the school's Grievance Procedure.

There will be no tuition reimbursement granted to an expelled student.

Students who have been expelled may re-apply for a future program with no guarantee of acceptance.

### **GRIEVANCE/APPEALS PROCEDURE**

The school is committed to ensuring that students with grievances relating to the school and/or program, the administration, and/or other personnel use a process that may resolve their concerns as promptly, confidentially, and as practicable under the circumstances.

If the student has a grievance, they first should discuss the matter informally with the individual directly involved. If they are not comfortable doing so or the matter is not resolved through this initial step, the student should discuss the matter with their instructor and/or program director. If this still does not resolve the matter, they should submit their written grievance within ten (10) business days of the event at issue or initial discussion to:

Sean Kerrigan, Chief Operating Officer  
Arizona Heart Foundation School of Cardiac & Vascular Ultrasound  
1910 E. Osborn Rd, Ste. 225  
Phoenix, AZ 85014

The COO, or his designee, will review the grievance and respond in writing within fourteen (14) business days.

If the student complaint cannot be resolved after exhausting the School's Grievance Procedure, the Student may file a complaint with the Arizona State Board for Private Post-Secondary Education. You must contact the State Board for further details. The State Board address is 1740 W. Adams Street, #3008, Phoenix, AZ, 85007, 602-542-5709, or <http://ppse.az.gov>.

## ARBITRATION

If arbitration of a student grievance is required, the arbitration will take place at a location reasonably convenient for both parties giving due consideration to the student's ability to travel and other pertinent circumstances. Both parties will attempt to have proceedings take place within a reasonable time and without undue delay. The arbitration proceedings will follow the spirit, if not the letter of the consumer due process protocol of the American Arbitration Association. The protocol includes but is not limited to a fundamentally fair process; an independent and impartial, competent, and qualified arbitrator; independent administration of the arbitration; reasonable cost; right to representation; and the possibility of mediation.

Arbitration does not preclude other avenues of recourse, including but not limited to possible relief in small claims courts, unless and until the arbitration result is made binding. Arbitration of a student grievance does not preclude the student from seeking a remedy from the Arizona Board of Private Postsecondary Education.

## STANDARDS OF ACADEMIC PERFORMANCE

The school's academic performance and attendance policies are applied equally to all students.

### Academic Progress Records

The school class size is kept purposefully small to allow for continual feedback between instructor and student. Therefore, we seek to constantly keep students updated on their progress in class, whether positive, negative, or in need of improvement. All grades and progress reports are provided to students for work completed and are filed in the student file. Tutoring services are recommended to the student in need of assistance and provided at no cost. We also provide additional hands-on scanning in the "open lab" available to all students. If needed, the student is given one-on-one instruction. Student outcomes are continuously monitored daily weekly, and monthly. Requests for transcripts should be directed to Eileen Spengler, [espengler@azheartfoundation.org](mailto:espengler@azheartfoundation.org).

The school's grading system is based on the following standard:

90% - 100% = A	80% - 89% = B	70% - 79% = C	60% - 69% = D	Below 60% = F
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The minimum satisfactory grade level required to graduate from the program is a "C" or higher in all courses. A grade level of "D" or lower is unsatisfactory and will require counseling/remediation within the next five days, dependent upon the individual needs and requirements to include didactic and hands-on laboratory. Assessments will be provided for determination of improvements and comprehension. Failure to improve the grade level to a "C" or higher within 15 days after that will result in expulsion from the program.

Tutoring services are an option and are provided at no additional cost.

### Clock Hours

The programs offer an in-depth learning experience that will enable students to produce accurate, high-quality echocardiographic and vascular images through classroom instruction, skills lab, hands-on experience with patient models, anatomical lab opportunities, and clinical externships. The program is 12 months and includes 1,678 clock hours. Two cardiac programs and one vascular program are offered in January and, then, in July, only one of each program is offered. The maximum time frame is 150% of the standard program length of 12-months.



<u>Term 1</u>	<u>Term 2</u>	<u>Term 3</u>
<p>The minimum satisfactory grade required to pass Term 1 is a “C” or higher. The full term of 474 hours must be completed within Term 1.</p> <p>Qualitative: “C” or greater Quantitative: 474 hours</p> <p>A grade level lower than a “C” is unsatisfactory and will require immediate counseling. The instructor will advise the student to create a Student Advisement plan and Student Plan of Action forms, which both the student and instructor will sign. (See Student Advisement Plan and Student Plan of Action Improvement Form) Tutoring will be offered to the student.</p> <p>Failure to meet a satisfactory grade of a ‘C’ within 15 days of the student’s improvement plan will result in failure of the term and termination from the program.</p> <p>The student will be reimbursed according to the school’s policy on prorated calculation (page 10 of the catalog).</p> <p>If the student is terminated from the program because of failure to improve, the student has the right to follow the appeal process to be reinstated. (See appeal/grievance process in school catalog on page 15 of the catalog).</p>	<p>The minimum satisfactory grade required to pass Term 2 is a “C” or higher. The full term of 590 hours must be completed within Term 2.</p> <p>Qualitative: “C” or greater Quantitative: 590 hours</p> <p>A grade level lower than a “C” is unsatisfactory and will require immediate counseling. The instructor will advise the student to create a Student Advisement plan and Student Plan of Action forms, which both the student and instructor will sign. (See Student Advisement Plan and Student Plan of Action improvement form) Tutoring will be offered to the student.</p> <p>Failure to meet a satisfactory grade of a “C” within 15 days of the student’s improvement plan will result in failure of the term and termination from the program.</p> <p>The student will be reimbursed according to the school’s policy on prorated calculation (page 10 of the catalog).</p> <p>If the student is expelled from the program because of failure to improve, the student has the right to follow the appeal process to be reinstated. (See appeal/grievance process in school catalog on page 15 of the catalog).</p>	<p>The minimum satisfactory grade required to pass Term 3 is a “C” or higher. The full term of 614 hours must be completed within Term 3.</p> <p>Qualitative: “C” or greater Quantitative: 614 hours</p> <p>A grade level lower than a “C” is unsatisfactory and will require immediate counseling. The instructor will advise the student to create a Student Advisement plan and Student Plan of Action forms which both the student and instructor will sign. (See Student Advisement Plan and Student Plan of Action improvement form) Tutoring will be offered to the student.</p> <p>Failure to meet a satisfactory grade of “C” within 15 days of the student’s improvement plan will result in failure of the term and termination from the program.</p> <p>The student will be reimbursed according to the school’s policy on prorated calculation (page 10 of the catalog).</p> <p>If the student is expelled from the program because of failure to improve, the student has the right to follow the appeal process to be reinstated. (See appeal/grievance process in school catalog on page 15 of the catalog).</p> <p>To Graduate, the Student must complete the maximum time frame of 100% of the standard program length of one year; 1678 total hours; and with a final grade of “C” or higher. Qualitative: “C” or greater Quantitative: 1,678 hours</p>

		They will also meet all requirements on page 16 of the school catalog.
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Tutoring services are recommended for the student in need of improvement in their performance and are provided at no additional cost. Tutoring is available within a term, at any time, to all students.

Student files will contain written documentation of their progress throughout the entire length of the program.

### Completion of Program

Upon successful completion of the program within the maximum timeframe of 150%, students are awarded a certificate of completion. Information concerning other schools that may accept this school’s credits toward their programs can be obtained by contacting the office of the chief operating officer. It should not be assumed that any program hours described in the catalog could be transferred to another institution. The school does not guarantee the transferability of credits or hours to a college, university, or institution. Any decision on the comparability, appropriateness, and applicability of credits and whether these credits should be accepted is the decision of the receiving institution.

- A. Students who are granted a “Leave of Absence” can reapply at no additional cost.
- B. Students who have been expelled may submit a new application for a future class, with no guarantee of acceptance. Students also have the right to appeal the decision.
- C. Students who must serve Jury Duty, during medical emergencies, or on family medical leave must begin the appeal process to be reinstated.

### Requirements for Graduation

To graduate with a certificate of completion from the standard program, students must successfully complete all didactic and clinical education requirements within the maximum time frame of the standard program length of one year, 12 months. A minimum of a “C” passing grade is required. In addition, all financial obligations to the program must be fulfilled.

Should a student not complete a term for whatever reason and is unable to complete the program within the designated terms, then the student will not be allowed to graduate.

The school does not support the following:

- 1. Incomplete grades
- 2. Transfer credits
- 3. Proficiency credits
- 4. Non-credit courses
- 5. Remedial courses
- 6. Course withdrawals
- 7. Non-punitive (pass/fail) grades

## **CARDIAC ULTRASOUND PROGRAM**

### Credentialing

The cardiac ultrasound program is designed to meet and exceed the minimum clinical clock hour requirements as recommended by Cardiovascular Credentialing International (CCI). Students are prepared to successfully pass the Registered Cardiac Sonography (RCS) exam conducted by CCI.

### Description

The cardiac ultrasound program offers in-depth education that will enable students to produce accurate, high-quality echocardiography images required for entry-level employment. Residential classroom, hands-on clinical experience, and professional development provide the opportunity to learn pathology related to sonography, demonstrate scanning techniques and protocols in the skills lab and clinical settings, and integrate lectures with clinical education. The cardiac sonographer performs sonography procedures in private physician offices, clinics, hospitals, and acute or long-term care facilities.

### Goals and Objectives

Upon completion of the program, students will:

- Demonstrate entry-level scanning skills of the anatomy and surrounding structures.
- Demonstrate entry-level knowledge of cardiac and vascular protocols for the national registry exams.
- Demonstrate effective communication and interpersonal skills with patients and members of the health care team.
- Understand and provide basic patient care while functioning within recognized ethical and legal standards of the profession and employer.
- Demonstrate knowledge and understanding of gross human anatomy and sectional anatomy as it relates to the diagnostic cardiac or vascular ultrasound.
- Demonstrate knowledge and understanding of physiology, pathology, and pathophysiology as it relates to entry-level cardiac or vascular ultrasound.
- Demonstrate knowledge and understanding of acoustic physics, Doppler ultrasound principles, and ultrasound instrumentation.
- Demonstrate knowledge and understanding of the interaction between ultrasound and tissue and the probability of biological effects in clinical examinations.
- Document complete and accurate results of diagnostic data to facilitate physician's interpretation.
- Always employ professional judgment and discretion.
- Demonstrate compassion and empathy including moral and ethical responsibilities for effective interaction within the patient experience.
- Recognize the importance of, and employ, ergonomically correct scanning techniques.
- Maintain optimal functioning of equipment.
- Utilize these workplace skills in a variety of medical facilities.
- Meet the needs of the communities we serve, including graduates, employers, physicians, and the public.
- Successfully pass the RCS and RVS registry exams.
- Demonstrate knowledge of quality assurance, management techniques, and IAC echocardiography accreditation needs as a professional sonographer.
- Follow the approved ASE standards ([www.asecho.org](http://www.asecho.org)) and the Scope of Practice for the Ultrasound Professional ([www.sdms.org](http://www.sdms.org))

### Clock Hours (52 weeks)

Patient Care	41
Physics	88
Introduction to Echocardiography	108
Advanced Echocardiography	189
Imaging Lab	426
Clinical Rotation	826
<b>Total</b>	<b>1678</b>

### Daily Schedule

Our program is divided into three terms, or trimesters. Classroom sessions and clinical rotations *average* 35 hours per week. Some weekend and/or evening hours may be required.

7:30 - 10:30	Academic Classes			
10:30 - 11:00	Lunch			
11:00 - 2:00	Ultrasound Skills Lab			
<b>First Term: April 8, 2024 - August 2, 2024</b>				
<b>17 Weeks / 85 Days (79 Class/0 Clinical/6 Holiday)</b>		<b>Academic</b>	<b>Lab</b>	<b>Clinical</b>
	Introduction to Ultrasound/Physics	88		
	Patient Care	41		
	Introduction to Echocardiography	108		
	Ultrasound Skills Lab		237	
	Clinical Rotation			0
	<b>First Term Total</b>	<b>237</b>	<b>237</b>	<b>0</b>
<b>Second Term: August 5, 2024 - December 6, 2024</b>				
<b>18 Weeks / 90 Days (63 Class/25 Clinical/2 Holiday)</b>		<b>Academic</b>	<b>Lab</b>	<b>Clinical</b>
	Advanced Echocardiography including research	189		
	Ultrasound Skills Lab		189	
	Clinical Rotation			200
	<b>Second Term Total</b>	<b>189</b>	<b>189</b>	<b>200</b>
<b>Third Term: December 9, 2024 - March 31, 2025</b>				
<b>17 Weeks / 81 Days (0 Class/79 Clinical/2 Holiday)</b>		<b>Academic</b>	<b>Lab</b>	<b>Clinical</b>
	Clinical Rotation			626
	<b>Third Term Total</b>	<b>0</b>	<b>0</b>	<b>626</b>
	<b>TOTAL</b>	<b>426</b>	<b>426</b>	<b>826</b>
	<b>Academic Classes</b>			<b>426</b>
	<b>Ultrasound Skills Lab</b>			<b>426</b>
	<b>Clinical Rotation</b>			<b>826</b>
	<b>TOTAL HOURS</b>			<b>1678</b>

## IMPORTANT DATES:

First Day of Program		April 8, 2024
Holidays	Memorial Day	May 27
	Summer Break / Independence Day	July 1 - July 5
	Labor Day	September 2
	Thanksgiving	November 28
	Christmas Day	December 25
	New Year's Day	January 1, 2025
Last Day of Program		March 31, 2025
Graduation		TBD

The schedule may be amended or suspended, at any time, at the school's sole discretion, with or without notice.

## CARDIAC ULTRASOUND COURSE DESCRIPTIONS

### Patient Care

This course includes an overview of cardiac anatomy, physiology, medical terminology, pharmacology, basic diagnostic procedures, blood-borne pathogens, pathophysiology, and infectious diseases. It also includes how to interact with patients in a clinical setting as well as the topic of professionalism, characteristics of a healthcare professional, patient communication and critical thinking, legal and ethical issues, HIPPA, OSHA, and malpractice.

### Physics

This course includes ultrasound instrumentation properties of sound waves, propagation and interaction of ultrasound in tissue, static and real-time ultrasound imaging principles and artifacts, and instrumentation of real-time ultrasound imaging. Laws of conservation, properties of matter, properties of sound and light, current, Ohm's Law, frequency, physical principles, hemodynamics, Doppler physics, color imaging and artifacts, digital signal and image processing and bioeffects.

### Introduction to Echocardiography

This comprehensive course will provide an overview of the basic principles of adult echocardiography, including the technique of performing cardiac ultrasound examinations. The standard measurements for each echocardiography discipline will be presented; normal anatomy, as well as cardiac pathology, will be emphasized. Each component of the cardiovascular principles' examination outline will be presented. Major topics include anatomy and physiology, technique, Doppler, valvular heart disease, ischemic heart disease, diseases of the aorta, congenital heart disease, pericardial disease, hypertension, cardiomyopathies, and cardiac tumors. Instruction will be comprised of lectures, an ultrasound lab, and independent assignments.

### Advanced Echocardiography

Students will have an in-depth understanding of the cardiac cycle, cardiac anatomy and physiology, standard 2-D views, M-mode and real-time measurements, Doppler calculations, pathology and stress echocardiography, echo standards, advanced methods, 3-D, 4-D, tissue Doppler, cardiac resynchronization, and new technologies. This comprehensive, advanced course will be the final preparation for the registry exam.

### Imaging Skills Lab

This course ensures the development of the student's scanning skills as well as the appropriate use of a protocol. Students begin training in the school's imaging lab during the first week of the program. Patient models are used exclusively to help students identify a variety of anatomies and indications. Students will be fully prepared to enter cardiac clinical rotations and perform studies independently. During this time, interrelationships with patients and staff, communication, cleanliness, initiative, efficiency, confidence, judgment, constructive criticism, learning from mistakes, professional growth, HIPAA compliance, patient mindfulness, and personal responsibility are practiced.

### Clinical Rotation

Students continue to practice skills after competency testing to ensure the refinement of their professional skills and gain independence and confidence. Students will be supervised and instructed in the clinical setting by the affiliate preceptors and sonographers. Through individualized instruction and evaluation, the student's clinical progress and competency will be measured by the school's clinical coordinator, instructor, affiliate preceptors, and sonographers. The school may at times request a student travel out of the city limits for a clinical externship.

### **CARDIAC ULTRASOUND CLINICAL SITE OVERVIEW**

Clinical rotation hours are included in the program. Students will not be assigned to a clinical site until it has been determined by the school that this privilege has been earned as evidenced by the student's academic and ethical performance, adherence to the school's Code of Conduct, scanning proficiency, professional behavior, attendance, promptness, and compliance with any financial agreement with the school. Students are required to report to all clinical sites as assigned. The school may, at times, request the student to travel out of the area for their clinical site.

The goal of the clinical rotation in the current curriculum is to prepare the student to perform step-by-step limited and later complete cardiac sonography exams under direct supervision. The student will practice exercising independent judgment relative to the entirety of the sonography test performed.

All practical training will be monitored and under the direct supervision of the school. The planned program of activities will be controlled by the school and not by officials at the clinical site.

### Student Responsibilities

Under the direct supervision of the clinical site preceptor/staff designee, the sonography student will be responsible for the following duties:

1. Patient interviews relevant to the cardiovascular indications
2. Instruction and patient preparation for the exam
3. Quality control testing for the ultrasound machine/transducers
4. Execution of patient imaging procedures, including:
  - Routine and complex echocardiograms
  - Treadmill and pharmacological stress echocardiograms
  - Transesophageal echocardiogram (TEE)
  - Computer image acquisition and image enhancement
  - Patient preparation for various procedures
  - Preparation of the preliminary report
5. Demonstrate knowledge and understanding of cardiac pathology, pathophysiology, and hemodynamics in different disease states.
6. Demonstrate an understanding of ultrasound physics and instrumentation.
7. Exhibit professionalism in the performance of these duties, demonstrate an empathetic and instructional approach to patient care and maintain the confidentiality of information as required.

8. Achieve professional growth and development through participation in medical and technical education and research to enhance the quality of patient care.
9. Take care of the patient while in the department, which may require assisting with patient issues such as vomiting, bleeding, CPR, and/or ACLS procedures.

### General

The sonography student on clinical rotation must:

- Possess these intellectual skills: comprehension, measurement, mathematical calculation, problem-solving, reasoning, integration, analysis, comparison, self-expression, and the ability to accept criticism.
- Be able to exercise appropriate judgment to recognize and correct performance deviations.
  
- Be prepared to recognize any condition, whether observed in the ultrasound exam or inpatient behavior, which may pose an immediate threat to health or life and react appropriately.
- Attend class a minimum of one day a week or as requested to maintain interaction with instructors in order to continue learning and prepare for the national registry exam.

### Behavioral and Social

The sonography student on clinical rotation must:

- Be able to manage time to complete didactic and clinical tasks within reasonable time constraints.
- Possess emotional health necessary to effectively employ intellect and exercise appropriate judgment.
- Be able to provide professional and technical services despite the stress of heavy workloads.
- Be flexible, creative, and adaptable to clinical and didactic changes.
- Recognize potentially hazardous materials, equipment, and situations and be able to proceed safely to reduce the risk of injury to the patient or self.
- Support and promote the activities of fellow students and health care professionals.
- Be honest, compassionate, ethical, and responsible.
- Always safeguard and preserve the confidentiality of patient information in accordance with office policy.

### Technical

The sonography student on clinical rotation must assist the clinical site preceptor/staff designee in performing echocardiographic procedures by demonstrating appropriate competency in the following:

- Obtain appropriate clinical history to adapt the imaging techniques accordingly.
- Patient education.
- Patient care and management.
- Record complete physiologic ultrasound exam consisting of 2D, M-mode, pulsed (PW), and continuous wave (CW) Doppler and color flow imaging, making appropriate quantitative calculations from the data recorded.
- Perform exercise echocardiography and pharmacological stress testing.
- Assist in the performance of transesophageal (TEE) echocardiograms.
- Assist in the Bubble/Saline study.
- Determine if contrast injection is indicated and act accordingly.
- Equipment configuration and operation.
- Positioning skills.
- Ultrasound safety.

In addition to the above, other duties as indicated by clinical instructor or program/school policies.

### Clinical Site Preceptor

Per guidelines from the Accrediting Bureau of Health Education Schools (ABHES), Commission on Accreditation of Allied Health Education Programs (“CAAHEP”), and Joint Review Committee-Cardiovascular Technology (“JRC CVT”), the following apply in connection with the clinical site preceptor:

- Responsibilities

Although students will work with many sonographers in the clinical setting, a clinical site preceptor/instructor shall be designated as the primary contact for the student and the program director. The clinical site preceptor/staff designee must be available to students whenever he or she is assigned to a clinical site, provide appropriate clinical supervision, and be responsible for student clinical evaluation.

- Qualifications

The designated clinical instructor must hold the RDCS (through the ARDMS) credential or the RCS (through CCI) credential and have appropriate education and experience to fulfill the minimum qualification requirements.

### Cardiac Sonography Student - Master List of Competencies

Below is a list of competencies that the sonography student must successfully complete in order to demonstrate acquired skills in the performance and evaluation of the adult cardiac studies. The competencies consist of communication, didactic learning, scan lab skills, and clinical rotations. The competencies are evaluated using the associated clinical evaluation form each term or sooner if appropriate.

1. Demonstrate and practice intra and interdepartmental skills
2. Demonstrate and practice effective communication (verbal, non-verbal, written)
3. Utilize professional conduct and demonstrate professional judgment
4. Demonstrate initiative and display a positive attitude
5. Provide effective and safe patient care
6. Demonstrate critical thinking skills
7. Utilize correct scanning techniques
8. Recognize and identify cardiac anatomic structures
9. Utilize scanning skills to perform PW, CW, and color Doppler imaging studies

### Patient Care Duties Not to be Provided by Students

The sonography student must not perform the following clinical care duties independently:

1. Discuss the echocardiography findings/diagnosis/prognosis/treatment plans or surgical advice to the patients and their relatives
2. Administration of IV/IM/Intra-cardiac drugs
3. If the patient refuses examination by a sonography student, the student must stop, excuse him/herself from the room, fulfill the patient’s wishes for privacy, and report this to the supervisor
4. While examining all populations of patients for cardiac ultrasound procedures, appropriate caution must be exercised per guidelines from the hospital
5. Patient information, including personal or medical records and cardiac sonographic scans, is not to be removed from the premises nor copied in any format without an express written request from the program director of the school and hospital administration. In such a case, all patient identification and medical record numbers must be deleted.
6. Medical equipment, devices, and supplies are not to be removed from the premises by the student.



## **VASCULAR ULTRASOUND PROGRAM**

### **Credentialing**

The vascular ultrasound program is designed to meet and exceed the minimum clock hour requirements as recommended by Cardiovascular Credentialing International (CCI). Students are prepared to successfully pass the Registered Vascular Specialist (RVS) exam conducted by CCI.

### **Course Description**

The program offers in-depth education that will enable students to produce accurate, high-quality vascular images needed for entry-level employment. Residential classroom, hands-on clinical experience and professional development will provide the opportunity to learn pathologic knowledge related to sonography, demonstrate scanning techniques and protocols in the skills lab and clinical settings, and integrate lectures with clinical education. The vascular sonographer performs procedures in private physician offices, clinics, hospitals, and acute or long-term care facilities.

### **Goals and Objectives**

Upon completion of the program, students will:

- Demonstrate entry-level scanning skills of the anatomy and surrounding structures.
- Demonstrate entry-level knowledge of vascular protocols for the national registry exam.
- Demonstrate effective communication, professional judgment, and discretion.
- Demonstrate understanding of basic patient care.
- Demonstrate knowledge and understanding of gross human anatomy and sectional anatomy as it relates to vascular ultrasound.
- Demonstrate knowledge and understanding of physiology, pathology, and pathophysiology as it relates to vascular ultrasound.
- Demonstrate knowledge and understanding of acoustic physics, Doppler ultrasound principles, and ultrasound instrumentation.
- Demonstrate knowledge and understanding of the interaction between ultrasound and tissue and the probability of biological effect in clinical examinations.
- Demonstrate knowledge of interpersonal relationships, including moral and ethical responsibilities for effective communication and empathy with and for the patient.
- Demonstrate ergonomically correct scanning techniques to prevent musculoskeletal injury.
- Demonstrate ability to utilize learned skills in a variety of medical facilities.
- Demonstrate ability to meet the needs of the communities we serve, including graduates, employers, physicians, and the public.
- Integrate knowledge and patient data to obtain optimum diagnostic results.
- Demonstrate effective interpersonal skills with patients and members of the health care team
- Provide care and empathy to promote patient physical and psychological well-being.
- Function within recognized ethical and legal standards of the profession and employer.
- Perform appropriate vascular diagnostic procedures with accuracy.
- Maintain optimal functioning of equipment.
- Demonstrate knowledge of quality assurance, management techniques, and IAC vascular accreditation needs as a professional sonographer.
- Follow the approved SVU Standards ([www.svunet.org](http://www.svunet.org)) and the Scope of Practice for the Ultrasound Professional ([www.sdms.org](http://www.sdms.org))
- Successfully passed the RVS exam.

Clock Hours (52 weeks)

Patient Care	41
Physics	88
Introduction to Vascular Ultrasound	108
Advanced Vascular Ultrasound	189
Imaging Lab	426
Clinical Rotation	826
<b>Total</b>	<b>1678</b>

Daily Schedule

Our program is divided into three terms, or trimesters. Classroom sessions and clinical rotations *average* 35 hours per week. Some weekend and/or evening hours may be required.

7:30 - 10:30	Academic Classes			
10:30 - 11:00	Lunch			
11:00 - 2:00	Ultrasound Skills Lab			
<b>First Term: January 2 - April 26, 2024</b>				
<b>17 Weeks / 85 Days (79 Class/0 Clinical/6 Holiday)</b>		<b>Academic</b>	<b>Lab</b>	<b>Clinical</b>
	Introduction to Ultrasound/Physics	88		
	Patient Care	41		
	Introduction to Vascular Ultrasound	108		
	Ultrasound Skills Lab		237	
	Clinical Rotation			0
	<b>First Term Total</b>	<b>237</b>	<b>237</b>	<b>0</b>
<b>Second Term: April 29 - August 30, 2024</b>				
<b>18 Weeks / 90 Days (63 Class/25 Clinical/2 Holiday)</b>		<b>Academic</b>	<b>Lab</b>	<b>Clinical</b>
	Advanced Vascular Ultrasound including research	189		
	Ultrasound Skills Lab		189	
	Clinical Rotation			200
	<b>Second Term Total</b>	<b>189</b>	<b>189</b>	<b>200</b>
<b>Third Term: September 2 - December 24, 2024</b>				
<b>17 Weeks / 82 Days (0 Class/79 Clinical/3 Holiday)</b>		<b>Academic</b>	<b>Lab</b>	<b>Clinical</b>
	Clinical Rotation			626
	<b>Third Term Total</b>	<b>0</b>	<b>0</b>	<b>626</b>
	<b>TOTAL</b>	<b>426</b>	<b>426</b>	<b>826</b>
	<b>Academic Classes</b>			<b>426</b>
	<b>Ultrasound Skills Lab</b>			<b>426</b>
	<b>Clinical Rotation</b>			<b>826</b>
	<b>TOTAL HOURS</b>			<b>1678</b>

## VASCULAR DAY SESSION: IMPORTANT DATES

First Day of Program		January 2, 2024
Holidays	Martin Luther King Day	January 15
	Spring Break	March 4 - 8
	Memorial Day	May 27
	Independence Day	July 4
	Labor Day	September 2
	Thanksgiving	November 28 - 29
Last Day of Program		December 24, 2024
Graduation		TBD

The schedule may be amended or suspended, at any time, at the school's sole discretion, with or without notice.

## VASCULAR ULTRASOUND COURSE DESCRIPTIONS

### Patient Care

This course includes an overview of anatomy, physiology, medical terminology, pharmacology, basic diagnostic procedures, blood-borne pathogens, pathophysiology, and infectious diseases. It also includes how to interact with patients in a clinical setting as well as the topic of professionalism, characteristics of a healthcare professional, patient communication and critical thinking, and legal and ethical issues.

### Physics

This course includes ultrasound instrumentation properties of sound waves, propagation and interaction of ultrasound in tissue, static and real-time ultrasound imaging principles and artifacts, and instrumentation of real-time ultrasound imaging. Laws of conservation, properties of matter, properties of sound and light, current, Ohm's Law, frequency, physical principles, hemodynamics, Doppler physics, color imaging and artifacts, digital signal and image processing, and bioeffects.

### Introduction to Vascular Ultrasound

This basic comprehensive course will provide an overview of ultrasound and sound in general. It will explain ultrasound as an imaging technology using high-frequency waves to characterize tissue. It will cover how it is a useful and flexible modality in medical imaging and often provides an additional or unique characterization of tissues compared to other modalities. This course will also introduce vascular ultrasound, including an introduction of the arterial and venous system of the human body and an introduction to scanning the following vascular studies: carotid duplex, extremity arterial, extremity venous, abdominal aortic duplex, aortoiliac duplex, renal artery duplex and ABI (ankle-brachial index).

### Advanced Vascular Ultrasound

This all-encompassing course will provide an in-depth deep dive into the vascular anatomy of the human body, including cerebrovascular, intracranial, extremity arterial mapping, extremity venous mapping, and reflux and abdominal vasculature in relationship to the abdominal aorta, mesenteric and renal arteries/veins. This course will also be the final preparation for the registry exam.

### Imaging Skills Lab

This course ensures the development of the student's scanning skills as well as the appropriate use of a protocol. Students begin training in the school's imaging lab during the first week of the program. Patient models are used exclusively to help students identify a variety of anatomies and indications for testing.

Students will be fully prepared to enter vascular clinical rotations and perform studies independently. During this time, interrelationships with patients and staff, communication, cleanliness, initiative, efficiency, confidence, judgment, constructive criticism, learning from mistakes, professional growth, HIPAA compliance, patient mindfulness, and personal responsibility are practiced.

### Clinical Rotation

Students are required to report to all clinical sites as assigned. Students continue to practice skills after competency testing to ensure the refinement of their professional skills and gain independence and confidence. Students will be supervised and instructed in the clinical setting by the affiliate preceptors and sonographers. Through individualized instruction and evaluation, the student's clinical progress and competencies will be measured by the school's clinical coordinator and the affiliate preceptors and sonographers.

### **VASCULAR ULTRASOUND CLINICAL SITE OVERVIEW**

Clinical rotation hours are included in the program. A student will not be assigned to a clinical site until it has been determined by the school that this privilege has been earned as evidenced by the student's academic and ethical performance, adherence to the school's Code of Conduct, scanning proficiency, professional behavior, attendance, promptness, and compliance with any tuition agreement with the school. Students are required to report to all clinical sites as assigned.

The goal of the clinical rotation in the current curriculum is to prepare the sonography student to perform step-by-step limited and later complete vascular sonography exams under direct supervision. The student will practice exercising independent judgment relative to the entirety of the sonography test performed.

All practical training will be monitored and under the direct supervision of the school. The planned program of activities will be controlled by the school and not by officials at the clinical site.

### Student Responsibilities

Under the direct supervision of the clinical site preceptor/staff designee, the sonography student will be responsible for the following duties:

1. Patient interviews relevant to the indications for the exam ordered.
2. Instruction and patient preparation for the exam.
3. Quality control testing for the ultrasound machine/transducers.
4. Execution of patient imaging procedures, including:
  - Routine and complex vascular studies
  - Computer image acquisition and image enhancement
  - Patient preparation for various procedures
  - All required worksheets completed
5. Demonstration of knowledge and understanding of vascular pathology, pathophysiology, and hemodynamics in abnormal disease states.
6. Understanding of ultrasound physics and instrumentation.
7. Exhibiting professionalism in the performance of these duties, demonstrating an empathetic and instructional approach to patient care, and maintaining the confidentiality of information as required.
8. Achieving professional growth and development through participation in medical and technical education and research to enhance the quality of patient care.
9. Patient care while in the department, may include patient issues such as vomiting, bleeding, CPR, and/or ACLS procedures.

## General

The sonography student in clinical rotation must:

- Possess these intellectual skills: comprehension, measurement, mathematical calculation, problem-solving, reasoning, integration, analysis, comparison, self-expression, and the ability to accept criticism.
- Be able to exercise sufficient judgment to recognize and correct performance deviations.
- Be prepared to recognize any condition, whether observed in the ultrasound exam or in-patient behavior, which may pose an immediate threat to health or life and react appropriately.
- Attend scheduled classes a minimum of one day a week to maintain interaction with instructors to continue learning and prepare for the national registry exam.

## Behavioral and Social

The sonography student in clinical rotation must:

- Be able to manage time to complete didactic and clinical tasks within reasonable time constraints.
- Possess emotional health necessary to effectively employ intellect and exercise appropriate judgment.
- Be able to provide professional and technical services despite the stress of heavy workloads.
- Be flexible, creative, and adaptable to clinical and didactic changes.
- Recognize potentially hazardous materials, equipment, and situations and be able to proceed safely to reduce the risk of injury to the patient or self.
- Support and promote the activities of fellow students and healthcare professionals.
- Be honest, compassionate, ethical, and responsible.
- Always safeguard and preserve the confidentiality of patient information in accordance with office policy.

## Technical

The sonography student in clinical rotation must assist the clinical site preceptor/staff designee to perform vascular procedures by demonstrating appropriate competency in the following:

- Obtaining appropriate clinical history to adapt the imaging techniques accordingly.
- Patient education.
- Patient care and management.
- Recording complete physiologic ultrasound exam consisting of 2D, pulsed (PW) Doppler and color flow imaging, making appropriate quantitative calculations from the data recorded.
- Equipment configuration and operation.
- Positioning skills.
- Ultrasound safety.

In addition to the above, other duties as indicated by clinical instructor or program/school policies.

## Clinical Site Preceptor

Per guidelines from the Accrediting Bureau of Health Education Schools (ABHES), Commission on Accreditation of Allied Health Education Programs ("CAAHEP"), and Joint Review Committee-Cardiovascular Technology ("JRC CVT"), the following apply in connection with the clinical site preceptor:

### ▪ Responsibilities

Although Students will work with many sonographers in the clinical setting, a clinical site preceptor/instructor shall be designated as the primary contact for the student and the program director. The clinical site preceptor/staff designee must be available to students whenever he or she is assigned to a clinical site, provide appropriate clinical supervision, and be responsible for student clinical evaluation.

- **Qualifications**

The designated clinical instructor must hold the RVT (through the ARDMS) credential or the RVS (through CCI) credential and have appropriate education and experience to fulfill the minimum qualification requirements.

### Vascular Sonography Student - Master List of Competencies

Below is a list of competencies that the student must successfully complete in order to demonstrate acquired skills in the performance and evaluation of adult vascular studies. The competencies consist of communication, didactic learning, scan lab skills, and clinical rotations. The competencies are evaluated using the associated clinical evaluation form each term or sooner if appropriate.

1. Demonstrate and practice intra and interdepartmental skills.
2. Demonstrate and practice effective communication (verbal, nonverbal, written).
3. Utilize professional conduct and demonstrate professional judgment.
4. Demonstrate initiative and display a positive attitude.
5. Provide effective and safe patient care.
6. Demonstrate critical thinking skills.
7. Utilize correct scanning techniques and follow testing protocols.
8. Recognize and identify vascular anatomic structures; recognize and identify vascular pathology and associated findings.
9. Utilize scanning skills to perform B-mode, PW Doppler, color Doppler, and power Doppler (titles may differ per manufacturer) imaging during vascular studies.

### Patient Care Duties Not to be Provided by Students

The student sonographer must not perform the following clinical care duties independently:

1. Discuss the vascular ultrasound findings/diagnosis/prognosis/treatment plans or surgical advice to the patients and their relatives.
2. Administration of IV/IM/Intra-cardiac drugs.
3. If the patient refuses examination by a student sonographer the Student must stop, excuse him/herself from the room, fulfill the patient's wishes for privacy, and report this to the supervisor.
4. While examining all populations of patients for vascular ultrasound procedures, appropriate caution must be exercised per guidelines from the hospital.
5. Patient information, including personal or medical records and vascular sonographic scans, are not to be removed from the premises nor copied in any format without express written request from the program director of the school and hospital administration. In such case, all patient identification and medical record numbers must be deleted
6. Medical equipment, devices, and supplies are not to be removed from the premises by the student.



**ACKNOWLEDGMENT OF RECEIPT OF CATALOG AND HANDBOOK**

By signing below, I certify and acknowledge the following:

1. I have received and read a copy of the Arizona Heart Foundation School of Cardiac & Vascular Ultrasound Catalog.
2. I agree to abide by the policies set forth in the Catalog, including the Code of Conduct.
3. I understand that the provisions, statements, policies, curricula, procedures, schedules, and fees described in this Catalog are subject to change, suspension, cancellation or may be varied by the school at any time. I also understand that any information contained herein may be waived, modified, suspended, altered, or eliminated, at the sole discretion of the school, depending on the circumstances of a given situation.
4. I accept responsibility for keeping informed relative to any changes to this catalog.

\_\_\_\_\_  
Student's *printed* name

\_\_\_\_\_  
Student's *signature*

\_\_\_\_\_  
Date Acknowledged

NOTE: This page must be signed, dated, and returned to the school with a signed Enrollment Agreement.