HOUSTON INTERNATIONAL COLLEGE
CARDIOTECH ULTRASOUND SCHOOL

2023-2024
CATALOG

Volume 15

12135 Bissonnet Street, Suite E, Houston, Texas 77099
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Revised August 2023

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This catalog contains a summary of the rules and policies of Houston International College Cardiotech Ultrasound School at the time of publication. Houston International College Cardiotech Ultrasound School reserves the right to change any stipulation within this catalog at any time. Notice of changes will be communicated in a revised catalog, or written statement.

GENERAL INFORMATION

SCHOOL HISTORY AND STATEMENT OF OWNERSHIP

The Houston International College Cardiotech Ultrasound School is located in Houston, Texas. Established in 2002 as a career school the institution became a college in 2016. The institution is wholly owned by Cardiotech Ultrasound School LLC, a Texas Limited Liability Corporation. The governing authority for Cardiotech Ultrasound School LLC is Joan H. Douglas, and Neville L. Myles. A Program Advisory Committee was established to assist and advise with the programs. The college is approved by various agencies to offer a variety of program including the Texas workforce as a Residence school (A school that offers at least one program that includes classroom instruction or synchronous distance education).

Approved and regulated by:
The Texas Workforce Commission-Career Schools and Colleges 101 E. 15th Street,
Austin, Texas 78778-0001
(512) 936-3000
License # S -1852

Accrediting Bureau of Health Education Schools (ABHES) Institutional Accreditation:
6116 Executive Boulevard, Suite 730 North Bethesda, MD 20852
Tel 301 291-7550
Email: Info@abhes.org
Web Page: www.abhes.org
ABHES School # I-056

Texas Higher Education Coordinating Board
1200 E. Anderson Lane,
Austin, TX 78752

Approved to train Veterans by:
Texas Veterans Commission- Veterans Education Program
P.O. Box 12277, Austin, Texas
78701, 1-877-898-3833.
License # S0312

Houston International College Cardiotech Ultrasound School is licensed and approved after going through vigorous reviews by various agencies in which the following areas are examined: Curriculum content, Student Service (advertising, placement, etc), Graduation and placement rates, Facility, School stability, Overall management, Instructors Credentials, Educational and equipment materials.

Complaint Policy: Texas Higher Education Coordinating Board (THECB) *Houston International College Cardiotech Ultrasound School is required to provide all degree seeking students with the information for filing students complaint with the THECB. In most cases, student concerns can be addressed and resolved by following the established grievance policy in the institutional catalog. Unresolved grievances of all degree seeking current, former, and prospective students can be filed with the Texas Higher Education Coordinating Board (THECB) after exhausting the institution's grievance/complaint process. If after exhausting the institutional grievance process, a mutually satisfactory resolution cannot be determined, then student may initiate a complaint with THECB through:*

http://www.thecb.state.tx.us/index.cfm?objectid=C9BD55D4-C5A3-4BC6-9A0DF17F467F4AE9
http://www.thebc.state.tx.us/index.cfm?objectid=051F93F5-03D4-9CCE-40FA9F46F2CD3C9D
Email: studentcomplaints@thecb.state.tx.us

Mail: Texas Higher Education Coordinating Board Office of General Counsel
P.O. Box 12788 Austin, Texas 78711-2788

FACILITY DESCRIPTION

Houston International College Cardiotech Ultrasound School is a small school located at 12135 Bissonnet, Suite E, and is within close proximity to Highway 59 and Beltway 8. The location is in the southwest suburban community of Alief, Texas, one mile west of the Beltway 8 on the Sugarland border. The school is easily accessible by car as well as public transportation provided by the Houston Metro Bus Lines.

Houston International College Cardiotech Ultrasound School is in full compliance with Federal, state and local ordinances and regulations. The 4880 square feet facility is located in an easily accessible complex and is designed to allow instructors to monitor individual students' progress and provide assistance in their chosen career endeavor. Six classrooms, an outpatient clinic, two labs equipped with sonographic and physiological equipment, a film library, audiovisual aids, models, small library and computer room are available to complement the instructional program. Vending machine, water cooler, and microwave facilities are available on site. Parking is free.

PHOTOGRAPHS

All photographs in this publication of Houston International College Cardiotech Ultrasound School are the property of the college.

MISSION STATEMENT OF INSTITUTIONAL PHILOSOPHY AND PURPOSE

MISSION

The mission of Houston International College Cardiotech Ultrasound School is to offer independent post-secondary education dedicated to developing intellectual capabilities and skills of a diverse body of students for lifetime responsibilities through high quality comprehensive programs. Prepare productive individuals for the global community by embracing diversity in students' cultures and philosophies to foster tolerance, integrity and purpose as responsible global citizens.

OBJECTIVES

Environment: *Provide an environment in which students may develop integrity, ethical relationships and empathic attitudes that contributes to the welfare and goodwill of mankind.*

Provide a milieu that promotes the development of attitudes and skills needed to foster the responsibilities to community needs.

Quality: *Provide the fundamental qualitative processes to promote and cultivate self-education, promote professional growth, and strengthen personal development through the maintenance of highly qualified and experienced faculty.*

Introduce students to various methods of communication, intellectual stimulation, and compassion while preparing them to be proficient practitioners. The program strives to make learning not just a requirement, but a tool for success in the chosen discipline.

Prepare individuals to function competently in their chosen career.

Balance: *Present programs in the form of lectures, laboratory demonstrations, video presentations, and practical experiences to facilitate a well-balanced curriculum in the chosen field.*

Provide each student with the learning tools to enhance learning; to stimulate learning attitudes, and to provide competency to function as informed, responsible professionals within their communities.

Service: *Help students develop a background of information and attitudes conducive to interpersonal understanding, communication, and cooperation.*

Achievement: *Recruit, accept, and retain students from diverse background, cultures who have demonstrated specific standards of scholarship, personal character, focused educational goals and to achieve satisfactory results of 80% or better on retention, placement, and certification of our students.*

Constant Improvements: *Student outcomes and surveys are utilized in determining the retention and placement of students. To provide more efficient service to students, the school utilizes feedback from faculty, staff, and employers. Staff and faculty and the advisory group have adopted the motto "student first," hence our focus is on quality education.*

The commitment of Houston International College Cardiotech Ultrasound School (HICCUS) to the fundamental principles of academic freedom, equality of opportunity, and human dignity requires that decisions involving students and employees be based on individual merit and be free from invidious discrimination in all its forms.

Houston International College Cardiotech Ultrasound School will not engage in discrimination or harassment against any person because of race, color, sex, religion, national origin, ancestry, age, marital status, disability, pregnancy, sexual orientation including gender identity, unfavorable discharge from the military or status as a protected veteran, and will comply with all federal and state nondiscrimination, equal opportunity and affirmative action laws, orders and regulations. HICCUS will provide reasonable accommodations (changes to the way things are normally done at work) to applicants and employees who need them for medical or religious reasons, as required by law. This nondiscrimination policy applies to admissions, employment, access to, and treatment in, the school programs and activities.

ADMINISTRATION

ADMINISTRATIVE STRUCTURE

Dr. Karla Kurrelmeyer, MD. FASE, Cardiologist, Medical Director

Joan Douglas, MS, RDCS, RCS. CEO,

Neville Myles, AAS. Administrator

Yasser Sherkawy, MD.RDMS, RDCS, RCS, RVT Director of Education

Deron Blaize, Financial Aid Officer

Eric Douglas, BS, Representative

Advisory Committee

Echocardiogram Technician Advisory Board
Yasser Sherkawy, MD, RDCS, RCS, RDMS, RVT
Joan Douglas RDCS, RCS, CEO
Isreal Austin (Student)
Khatira Roshan; RCT, RVS, (Graduate)
Raymond Maldonado RDMS, RDCS, RVS (Employer)

AAS in Vascular Sonography Advisory Board
Yasser Sherkawy, MD, RDCS, RCS, RDMS, RVT
Joan Douglas RDCS, RCS (CEO)
Jennifer Neundorf (Student)
Megan Mamedy, RVT (Graduate)
Travis Pyle, RCS (Employer)

AAS in Diagnostic Medical Sonography Advisory Board
Yasser Sherkawy, MD, RDCS, RCS, RDMS, RVT
Joan Douglas AS, RCVT, RCT, RDCS(AE), RCS

Non–Discrimination policy

Faculty

Yasser Sherkawy, MBBS, MD. RDMS (Ob, Ab) RDCS(AE), RVT, RVS, RCS Director of Education Alexandra Univ., Houston International College Cardiotech Ultrasound School

Joan H. Douglas, AS, Registered Cardiology Technologist, RCT, (ACTA), Registered Cardiovascular Technologist, RCVT, (NBCVT/CCI), RDCS (AE), (ARDMS) RCS, (CCI) Charter Oak State College

Dina DuBose, BAT, RVT, RVS, CCT, Clinical Director Brazosport College, Alvin Community College

Olajide Labiyi, MA, RDCS, Director of Echocardiogram Technician Program, Houston International College Cardiotech Ultrasound School, Univ. Of Iboda, Wharton Junior College,

Zakir Hossain, MBBS/MD, MPH, FASE, (ASE) RCS, RVS (CCI) RDMS (ARDMS) Director of Vascular Sonography Program University of Dhaka, BSSM Medical University, North American University

Daleep Kumar, MD, RDMS (Ab), (ARDMS), Director of Diagnostic Medical Sonography Program University Of Karachi, Singh Medical College, Medi-Nix Ultrasound Imaging & Training Institute, Houston International College Cardiotech Ultrasound School

Tristan Thompson, BS in Echocardiography, RDCS (AE), (ARDMS), RVT, ACS, RCS, Houston International College Cardiotech Ultrasound School, Oregan Institute of Technology (OIT)

Yousif Abid, BS, RDCS, RVT, (ARDMS), RCS, (CCI) Dijah University Houston International College Cardiotech Ultrasound School

Trinh Le, BSE, RDMS(Ob/Gyn), (Abd.) RVT, California State Polytechnic University, Newbridge College

Md. Jahangir Alam, BA, RCS, (CCI) RVT, (ARDMS) National University, Houston International College Cardiotech Ultrasound School

Programs Delivery Method: Residential

Tuition & Fees

Residence Program	Tuition & Fees	Total Cost
Echocardiogram Technician	*$23,975. Tuition* *$100. Registration* *$955. Lab, Liability Insurance fees* *Student Individual estimated expense:* *$250 Trajecsys Software and Castlebranch Access* *$1440. Books, Uniform, Supplies*	*$25,030* *$1690.00*
Associate of Applied Science In Vascular Sonography	*$28,800. Tuition* *$100. Registration* *$955. Lab, Liability Insurance fees* *Student Individual estimated expense:* *$250 Trajecsys Software, Castlebranch Access* *$1440.Books, Uniform, Supplies*	*$29, 855.00* *$1690.00*
Associate of Applied Science In Diagnostic Medical Sonography	*$28,800. Tuition* *$100. Registration* *$955. Lab, Liability Insurance fees* *Student Individual estimated expense:* *$250 Trajecsys Software, Castlebranch Access* *$1440.Books, Uniform, Supplies*	*$29, 855.00* *$1690.00*
	Programs Not Currently Offered	
Diagnostic Medical Sonography	*Tuition $ 21,162.00, Registration $100.00, $825. Lab, Liability Insurance, Books/Uniform $1440.*	*$23,527.00*
Cardiovascular Technology	*Tuition $17562.00, Registration $100.00, Insurance, Lab Fees $825. Books/Uniform $1200.*	*$19,687.00*
Vascular Ultrasound Technology	*Tuition $20,923.00, Registration $100.00, Insurance, Lab Fees $825.00, Books/Uniform $1200.00,*	*$23,048.00*
Monitor Technician	*Tuition $8,025.00, Registration $100.00, Insurance $350.00 Lab Fees $475.00, Books/Uniform $1000.00*	*$9,950.00*
EKG Technician	*Tuition $1,578.00, Registration $100.00, Insurance $350.00 Lab Fees $125.00, Books/Uniform $500.00*	*$2653.00*
Practical Cardiovascular Sonography	*Tuition $8900.00, Registration $100.00, Insurance $1035.00 Lab Fees $350.00, Books/Uniform/Supplies $500.00*	*$10,885.00*
	50% Tuition discount to Recent graduates	
Vascular Ultrasound Seminar	*Tuition $1000.00, Books $80.00*	*$1080.00*
Lab Practicum and Proficiency Testing	*Tuition $1000.00, Books $80.00*	*$1080.00*
National Registry Review Seminar	*Tuition $1000.00, Books $200.00*	*$1200.00*

Total cost is based on non-repeat of courses. Students are responsible for buying books, uniforms and all supplies needed for completing the program. These items are included in the total cost. Prices are subject to change without notice. Tuition cost and fees are quoted based on individual program. Please refer to each program specifications. Additional tuition funding is not available. Students must independently secure funding to cover school expenses prior to starting the program.

FINANCIAL INFORMATION

TUITION AND FEES

Students are advised to complete all administrative arrangements at least one (1) week prior to the start of a class. Tuition and fees are payable prior to start of class unless other arrangements are made. Tuition and fees for each course are provided in the tuition and fees schedule. Books and supplies are not included in the tuition. Houston International College Cardiotech Ultrasound School reserves the right to change the tuition, fees and other charges at its discretion when it is deemed advisable.

FINANCIAL ASSISTANCE

Houston International College Cardiotech Ultrasound School policies require all students to be responsible for all educational costs incurred throughout the program. The school participates in the federal Title IV financial assistance programs to aid students in meeting the cost of attending the school. Students may utilize Pell grants, federal or private loans, employer's reimbursement, Veteran benefits, and other sources to finance the program of choice. Free Application for Federal Student Aid (FAFSA) is available on the web at www.FAFSA.ed.gov.

FUNDING INFORMATION

US citizens or eligible non-citizens may qualify for Federal Funding. Applications to lending institutions for a school loan are entirely up to the individual student. State and Federal loans and grants are available. Foreign students must have evidence that they are able to meet financial obligations prior to starting any program at the Houston International College Cardiotech Ultrasound School.

TYPES OF FINANCIAL AID AVAILABLE

EMPLOYER REIMBURSEMENT: *Many employers have programs that reimburse students for educational costs. Students should contact the personnel office at their place of employment to determine if such funding is available for attendance at Houston International College Cardiotech Ultrasound School.*

DEPARTMENT OF EDUCATION AND VETERANS BENEFITS: *The school is approved for participation in several educational programs offered by the Veterans administration and the department of Education.*

EDUCATIONAL FINANCING SOURCES: *Students experiencing difficulties paying tuition must seek independent funding from funding companies that offer private educational financing programs. The student and the funding agency make arrangements for these types of funding independent of the school.* ***Houston International College Cardiotech Ultrasound School is not affiliated with any financial or lending institution and any business conducted between financial institution and students is not the school's responsibility.***

PAYMENT

Students are billed at the start of each semester. Methods of Payment include Pell Grant, Federal Students Loan and a Monthly Payment Plan. The school accepts Cash, Check, and Credit Card. The school offers a 0% interest in-house financing plan to United States citizens or legal residents that are unable to make full tuition payment at the start of the semester. Cost of attendance must be paid in full each semester to continue in the program. International students' payment is due at the time of registration. The school accepts only 90% of cost of attendance through Federal funding and 10% out of pocket or through another source.

PAYMENT PLAN SCHEDULE:

Tuition and fees must be paid in full before starting any course, except for prior monthly payment arrangements as seen below. **No exceptions**.
Total cost includes tuition, registration, lab, and liability insurance fees, and books.
Monthly payment plan is available to qualified students with a 0% interest rate each semester until completion of payment.
Students pay 50% deposit for each semester's total cost of courses for that semester.
Payment can be made for three months to cover the cost of each semester. Commencement of payments is the 1st Monday of the month following the start of class.
Payment is due on the 1st Monday of each month, and on the 1st Tuesday of each month after a holiday with a five days grace period after which a late fee of $25.00 will apply.
A late fee is added to each late payment.
Delinquencies are sent to our collection department.
Late payments are reported to one or more major credit bureaus.
Two or more late payments may lead to students being disallowed to continue the program.

Students are required to pay a registration fee of $100.00 prior to class start date. Required deposit is based on credit worthiness, job stability, and reference checks. All self-paying students must sign the automatic bank withdrawal paperwork to be accepted into the monthly payment plan.

Students will be required to make timely payments each month as stipulated in the enrollment agreement. Students would be disallowed to continue the program if financial obligations are not met. ***NO student will graduate or be awarded a Certificate of Completion or Transcript copies until all financial obligations to the school are met. NO EXCEPTIONS.*** *Students are responsible for all fees associated with returned checks and late charges.* ***Failure to adhere to the tuition or fee payment schedules will result in suspension from classes.*** *Full tuition does not include Registration, Books, Supplies, Insurance, or Fees.*

FINANCIAL OBLIGATIONS

Every student is expected to adhere to the enrollment agreement. Tuition and fees must be paid on time according to the terms of the enrollment agreement. In cases of extenuating circumstances, the student should consult with the Administrator's office. Delinquent students will not be allowed to attend class, take exams or attend clinical externship. Students in clinical sites with delinquent financial accounts will be pulled from the site. The school will make an effort to solve all financial obligations directly with the student. Delinquent accounts will be turned over to a collection agency after 3 months, if no reasonable payment arrangements can be made with the student.

GAINFUL EMPLOYMENT:

The U.S. Department of Education (the Department) published final regulations (the "Final Rule") rescinding requirements for programs that are eligible for Title IV federal student financial aid. The final program integrity regulations published in the Federal Register on October 29, 2010, [75 FR 66665 and FR 66832] which was rescinded on July 1 2019 will go into effect on July 1 2020.

ACADEMIC CALENDAR AND HOLIDAYS

Applicants may enroll three times during the year for schedule start dates in January, April/May and August/September. Enrollment starts 60 days prior to the commencement of classes. Classes start in the Fall, Spring and Summer. The school reserves the rights to change class schedules, instructors and class sequences or to postpone class start date up to a period not to exceed thirty (30) days. Any changes to the class schedules, instructors and/or class sequences will be announced. No student will be penalized for any of the above changes.

Calendar/Schedule

SPRING	1.04.2022	4.22.2022
SUMMER	4.25.2022	8.05.2022
FALL	8.29.2022	12.09.2022
SPRING	1.02.2023	4.21.2023
SUMMER	4.24.2023	8.04.2023
*F*ALL	8.28.2023	12.10.2023

SPRING BREAK (1 WEEK)	3.13.2023	3.17.2023
SUMMER BREAK (3WEEKS)	8.6.2023	8.27.2023
WINTER BREAK (3WEEKS)	12.10.2022	01.01.2024

NATIONAL HOLIDAYS 2022-2023		
Labor Day	September 5	2022
Columbus Day	October 9	
Veterans Day	November 11	
Thanksgiving	November 24	
Christmas Day	December 25	
New Year's Eve	December 31	
New Year's Day	January 1	2023
Martin Luther King Day	January 16	
Presidents Day	February 15	
Memorial Day	May 29	
Independence Day	July 4	

HOURS OF OPERATION

REGULAR BUSINESS HOURS:
8:00 am to 5:00 pm Monday through Thursday.

CLASSROOM HOURS:
8:00 am to 5:00 pm Monday through Thursday
10:00 am to 5:00 pm Friday

LUNCH:
Forty-five minutes is allowed for lunch.

BREAKS:
With each hour of instruction students are allowed 10-minute break.
Constitution day September 17th is observed on the 3rd Thursday of September each year.

Times are subject to change with short notice.

ADMISSION INFORMATION

APPLICATION

The College is open to eligible persons with a genuine desire to be trained in a career in an allied healthcare profession. Administrative staff is available to discuss any matters regarding admission and tuition costs. Admission to the College is open to all applicants regardless of race, color, national origin, sex, age, handicap, or marital status. Applicants are accepted into the program based on academic achievement, work history, character references, assessments, personal interviews and admission test results. The school reserves the right to limit enrollment in each of its programs.

All applicants must complete the application process and make necessary tuition arrangements prior to the start of class. In considering the applicants' qualifications for admission to individual programs, all pre-requisites for individual programs must be met. Accepted applicants are charged $100.00 registration fee to secure a place in the program. Prompt registration is encouraged. Local students are advised to submit application for admission in person, at which time they will take a tour of the facilities to assist them in making a final decision on their career goals.

ADMISSION REQUIREMENTS

ALL STUDENTS MUST:

STEP 1:

- *Pass entrance exam with a minimum score of 70%*
- *Tour campus*
- *Complete a personal interview with program admission team, which is composed of the Director or Director of Education and faculty members*
- *Complete application for admissions form.*
- *Complete a pre-admission questionnaire*
- *Completed TWC Career School and Colleges Record of Previous Education and Training CSC-010*
- *Education and Training forms PS-010*
- *Receipt of Enrollment Policies form PS-005*
- *.Meet /speak with the Financial Aid Advisor*
- *Complete FAFSA application at www.FAFSA.Ed.Gov at least two weeks prior to start of classes*

STEP 2: Submit all the following documents

- *Signed Campus tour confirmation document*
- *Proof of High school graduation, or GED*
- *A copy of SAT or ACT exam Scores or equivalent exam Driver's license or State photo ID card*
- *A copy of previous College transcripts if transfer credit is requested*
- *Two letters of recommendation (character)*
- *Proof of citizenship (**Voter's registration card or Copy of Passport**)*
- *Signed Attestation of High School education completion*
- *A 10-Panel Drug Screen Results administered through CastleBranch*
- *Copy of official immunization records submitted to CastleBranch*

- *A copy of a current CPR certification (AHA BLS – Online CPR course not accepted) must be submitted to CastleBranch*
- *Signed enrollment Agreement (parent or guardian sign for applicant under 18)*
- *Completed Criminal Background check, administered through CastleBranch*
- *Submit $100 Registration fee required upon signing enrollment. Submit Tuition payment for number of credits taken per semester*

STEP 3:

- *Complete orientation, sign orientation attendance document prior to first day of class.*

***Note: All foreign credentials must be translated by a recognized Education translator example ABHES recommended AICE or NACES members*

OTHER REQUIREMENTS

HEALTHCARE PROFESSIONALS:

- *Submit proof of prior education or employment as an MD., Allied Health Professional or Nurse. Radiological Technology, Diagnostic Sonography*
- *A Medical Doctor or persons holding Masters, Bachelors or Associate degree in Nursing, Radiological Technology, Diagnostic Sonography or transfer students from an Allied Health or Nursing program may be granted additional credits for prior education.*

DETERMINATION OF TITLE IV FUNDS ELIGIBILITY

- *Comply with our Satisfactory Academic Progress (SAP) policy included in the schools' catalog.*
- *Not be in default on a loan made under any Title IV, HEA Loan program.*
- *Not have obtained loan amounts that exceed annual or aggregate loan limits under any Title IV, HEA Loan program.*
- *Not be liable for any grant overpayment.*
- *Be enrolled at least halftime to receive assistance from the Direct Loan Program. (Pell Grant program do not require half time enrollment, but the student' enrollment status does affect the amount of Pell a student may receive).*

CONVICTION FOR POSSESSION OR SALE OF ILLEGAL DRUGS

A Federal or state drug conviction can disqualify a student for FSA funds. The student self-certifies in applying for aid that he/she is eligible. The school is not required to confirm this unless there is evidence of conflicting information.

The Chart below illustrates the period of ineligibility for FSA funds, depending on whether the conviction was for sale or possession and whether the student had previous offenses. (A conviction for the sale of drugs includes conviction for conspiring to sell drugs).

	Possession of illegal drugs	***Sale of illegal drugs***
1st offense	*1 year from the date of conviction*	*2 years from the date of conviction*
2nd offense	*2 years from the date of conviction*	*Indefinite period*
3+ offenses	*Indefinite period*	

- *If a student was convicted of both possessing and selling illegal drugs, and the periods of ineligibility are different, the student will be ineligible for the longer period.*
- *A student regains eligibility the day after the period of ineligibility ends or when he or she successfully completes a qualified drug rehabilitation program. Further drug convictions will make him or her ineligible again.*
- *When a student regains eligibility during the award year the institute may award Pell and/or Loan for the current payment period.*

STANDARDS FOR A QUALIFIED DRUG REHABILITATION PROGRAM:

A qualified drug rehabilitation program must include at least 2 unannounced drug tests and must satisfy at least one of the following requirements:

- *Be qualified to receive funds directly or indirectly from a federal, state or local government program.*
- *Be qualified to receive payment directly or indirectly form a federally or state-licensed insurance company.*
- *Be administered or recognized by federal, state or local government agency or court.*
- *Be administered or recognized by a federally or state-licensed hospital, health clinic or medical doctor.*

INCARCERATED APPLICANTS:

A student is considered to be incarcerated if she/he is serving a criminal sentence in a federal, state, or local penitentiary, prison, jail, reformatory, work farm, or similar correctional institution (whether it is operated by the government or a contractor). A student is not considered to be incarcerated if she/he is in a halfway house or home detention or is sentenced to serve only weekends. Our attendance policy specifies that all classes and practical studies are done at the school's physical location; therefore, incarcerated students are not eligible for admissions.

CITIZENSHIP AND RESIDENCY REQUIREMENTS:

- *To be eligible to receive title IV, HEA program assistance, a student must:*
- *Be a citizen or national of the United States or*
- *Provide evidence from the U.S. Immigration and Naturalization Service that he or she- is a permanent resident of the united states or*
- *Is in the United States for other than a temporary purpose with the intention of becoming a citizen or permanent resident.*
- *Be a citizen of the Federated States of Micronesia, Republic of the Marshall Islands, or the Republic of Palau is eligible to receive funds under Federal Pell Grant programs.*
- *Students must be enrolled as a full or part time student in an eligible program in order to participate in title IV.*

CRIMINAL BACKGROUND AND DRUG USE CHECK

Criminal background check is done on all students. Students are required to sign a disclosure at the time of applying to the institution. Students who have prior felony convictions may be denied Federal Funding and the opportunity to take professional licensing, certification, or registration exams after graduation, or may be denied license or certification to practice in some states even if the exam is taken and successfully completed. Students may be subjected to a drug test by these institutions. Students are responsible for all cost related to such testing. Students are urged to inquire about current requirements prior to enrolling in the program of their choice. Employment and externship decisions are outside the control of Houston International College Cardiotech Ultrasound School.

After admission documents have been submitted, applications are reviewed for completeness and evaluated by admission personnel. **Required information not submitted in a timely manner** *may result in the applicant not being admitted to a class. Students must reapply if prior applications extend beyond two semesters. The application process is not a confirmation of acceptance, or registration in any class.*

The school has the right to accept or deny any applicant based on the applicant's character reference, failure to provide all necessary information, and/or scholastic records. ***NO*** *student will be allowed admission without meeting* ***ALL*** *school requirements.* Foreign Students are not eligible for Federal funding.

PROOF OF EDUCATION

Foreign credentials must be evaluated by credential evaluation services of an agency that has published standards for membership, affiliations to U.S.-based international higher education associations, and are frequently linked to and used by federal agencies, state agencies, educational institutions and employers (e.g., NACES and AICE).such services as World Education Services, (www.wes.org) Spantran (www.spantran.com) or Globe Language services (www.globelanguage.com) or any similar organization recognized by the department of Education.

TRANSFER OF CREDITS

Prospective students who have received prior training in areas for which they are applying may be eligible to receive credits towards graduation. Credits granted may be based on interview and official transcripts with grades C or higher availability at the time of interview from an accredited school. Houston International College Cardiotech Ultrasound School accepts credits from institutions accredited by an agency
Recognized by the United States Department of Education (USDE) or the Council for Higher Education Accreditation (CHEA). Foreign earned credentials must be evaluated by an agency that has published standards for membership, affiliations to U.S.-based international higher education associations, and are frequently linked to and used by federal agencies, state agencies, educational institutions and employers (e.g., NACES and AICE). Such services as World Education Services, (www.wes.org) Spantran (www.spantran.com) or Globe Language services (www.globelanguage.com) or any similar organization recognized by the department of Education which attests to qualitative and quantitative equivalency and providing the U.S. equivalency credential and U.S. GPA lists courses by course specifying grades for each course.
Transfer credits for Anatomy and Physiology, Gen Physics, English Composition English Communication, College Algebra, Psychology Medical Terminology, Pharmacology, Pathophysiology, Patient Care and Sonographic Physics may not exceed 20% of the total credits needed to successfully complete the program. Determination of credits granted will be at the discretion of the program Director and or Director of Education. Students are not charged for transferred credits.
Assurance of transferability of credits to another college, university, or institution from Houston International College Cardiotech Ultrasound

School is not guaranteed. Students and graduates must enquire about the number of credits accepted from the college or university that they plan on attending. Transfer of credits is solely based on the receiving institution's policies and not on the policies of Houston International College Cardiotech Ultrasound School. Any decision on the comparability appropriateness, and whether the credits should be accepted, is at the discretion of the receiving institution.
The college does not participate in programs of study abroad, therefore students will not be considered for enrollment for the sole purpose of applying for assistance under the title IV, HEA programs. ***Transfer of credits will not be considered after he first day of class.***

CANCELLATION AND REFUND POLICY

STUDENT'S RIGHT TO CANCEL

Cancellation and refund policies are in accordance with the policies of the Texas Education Code (TEC), Chapter 132. In accordance with 23 Tex Reg 8499 #807.191. A prospective student has the right to cancel this contract until midnight of the 3rd business day (until midnight of the third day excluding Saturdays, Sundays, and legal holidays) after the contract is signed by the student, tour of facilities is completed and the student is accepted by the college.

CANCELLATION POLICY

STUDENTS RIGHT TO CANCEL:

Houston International College Cardiotech Ultrasound School cancellation and refund policies are in accordance with the policies of the Texas Education Code (TEC), Chapter 132. In accordance with 23 Tex Reg 8499 #807.191, a prospective student has the right to cancel this contract until midnight of the 3rd business day (until midnight of the third day excluding Saturdays, Sundays, and legal holidays) after this contract is signed by the student, tour of facilities is completed and the student is accepted by the college.

A full refund will be made to any student who cancels the enrollment contract within 72 hours (until midnight of the third day excluding Saturdays, Sundays and legal holidays) after the enrollment contract is signed. A full refund will also be made to any student who cancels enrollment within the student's first three scheduled class days, except that the school may retain not more than $100 in any administrative fees charged, as well as items of extra expense that are necessary for the portion of the program attended and stated separately on the enrollment agreement. The last day for cancellation of this enrollment agreement is seventy two (72) hours after signing the enrollment agreement at which time a full refund will be made. .

WITHDRAWAL POLICY

For purposes of this policy, any termination of a student's enrollment other than graduation will be considered a withdrawal from the college in keeping with federal Title IV guidelines. Short-term leaves of absence granted by college officials that do not prevent the student from completing the academic term are not considered withdrawals.

Attendance:

- *The college shall terminate a student enrollment that accumulates the lesser of the following amounts of absences: Missing more than 10 consecutive school days*
- *Missing more than 20% of the total course time hours in a program or any number of days if the student fails to return as scheduled from an approved leave of absence.*

TYPES OF WITHDRAWALS:

OFFICIAL WITHDRAWAL

a) Voluntary withdrawal from the institution by a student will be considered a student-initiated withdrawal.

b) Any withdrawal initiated by the institution will be considered an administrative withdrawal.

UNOFFICIAL WITHDRAWAL

Withdrawal without a written notice

A student may initiate their own withdrawal by providing official notice to the designated office in their school. Faculty and staff in all other areas must refer any student who expresses an unequivocal intent to withdraw to the designated office (administration office). While students may be encouraged to discuss their withdrawal with faculty and others, the only step a student must take to initiate a withdrawal is to provide an official written notice to the designated office.

The authority to withdraw a student for disciplinary, academic, or other appropriate reasons rests with the dean of the school in which the student is enrolled. The dean may delegate this authority to one or more individuals within the school. Any withdrawal initiated by the dean or her or his designee shall be considered an administrative withdrawal. Students who are withdrawn as the result of disciplinary, academic, or other reasons may appeal the withdrawal. During the appeal process, students may or may not be allowed to attend courses at the discretion of the dean or his or her designee. In the case of an appeal, the student's withdrawal date will be the last date of participation in academic activities.

The authority to withdraw a student for failure to comply with selected administrative policies and procedures rests with the Administrator, Director of Education, or the Director. The Administrator, Director of Education, or the Director may administratively withdraw a student for failure to pay tuition and fees, failure to meet the conditions of a provisional acceptance, failure to meet institutional requirements for immunizations, or failure to comply with other administrative requirements for admission or continued enrollment. Any withdrawal initiated by the Administrator, Director of Education, or the Director shall be considered an administrative withdrawal. Students who are withdrawn by the Administrator, Director of Education, or the Director may only be re-admitted when they provide documentation that they have complied with the administrative policy in question. Students may be readmitted by the Director of Education or the Director as soon as the student demonstrates compliance with the policy or regulation in question.

When any faculty or staff member determines that a student has withdrawn without giving official notice, they should notify the designated office (see item #3, above) in the student's school within two business days. In all cases, faculty and staff must identify any student who has withdrawn without notice no later than thirty days after (1) the end of the student's enrollment period; (2) the end of the student's academic year; or, (3) the end of the student's educational program; whichever comes first. The college's designated office must then provide a completed Withdrawal Form to the administration office within two business days of the date they received notice that a student has withdrawn without giving official notice.

All withdrawing students must complete the checkout steps required by the Administration Office.
Students who wish to rescind their official notice of withdrawal may do so only with the permission of the appropriate school official (see item #3, above). The designated college official will provide written notice to the Director or the Director of Education to reinstate the student as soon as possible, but within two business days, and the Director or the Director of Education will notify all other appropriate campus offices.
The date indicated in written communication by the student to the Director or the Director of Education's office is the withdrawal date. Verbal notification to an instructor does not constitute an official notification.

A completed Withdrawal Form must be submitted to the Director or the Director of Education Office for any student withdrawal including

administrative withdrawals for academic, disciplinary, or other appropriate reasons. For administrative withdrawals, the Withdrawal Form must be submitted to the administration office within two business days of the time the student ceases participation in the academic activities of the institution.

Withdrawn students are not eligible to participate in educational or co-curricular activities of the college and are not eligible to use services offered by Houston International College Cardiotech Ultrasound School.

Houston International College Cardiotech Ultrasound School developed and implemented a leave of absence policy that meets the educational needs of students and the demands of the curriculum. Any student granted a leave of absence by the school must also withdraw from the Cardiotech Ultrasound School in order to comply with Title IV guidelines. Students who withdraw from the Houston International College Cardiotech Ultrasound School without being granted a leave of absence are not eligible to return for the current semester of the program from which they withdrew. However, students may be readmitted for the next semester.

Students who withdraw without being granted a leave of absence may apply for readmission the next semester, by following the standard admissions procedures. Exceptions to this requirement may be made by the Director of the college. No withdrawn student will be allowed to re-enroll in the program from which he or she withdrew unless the director or his or her designee provides written permission for the student to re-enroll.

The Houston International College Cardiotech Ultrasound School complies with all stipulations and requirements for the awarding of Title IV student financial aid funds to the students of Houston International College Cardiotech Ultrasound School. Upon the withdrawal of a student, appropriate practices and procedures for the return of Title IV funds will be initiated in order to insure complete and total compliance with federal regulations. In the event that a student is a recipient of Title IV funds and an unearned portion of those Title IV funds must be returned to a lender or other entity upon the student's withdrawal, all offices involved in the withdrawal, the evaluation of the student's Title IV status, and the return of Title IV funds will take timely and immediate actions to ensure institutional compliance with federal regulations. The authority to determine a student's withdrawal date, and the date of the institution's determination that the student withdrew, rests with the Office of the Director or the Director of Education.

REFUND POLICY

Return of Federal Title IV Aid

In compliance with Federal regulations, Houston International College Cardiotech Ultrasound School will determine how much Federal student financial assistance the student has earned or not earned when a student withdraws from college.

The school will calculate the percentage and amount of awarded Federal student financial assistance that the student has earned if the student withdraws up through the 60% point of the term. If the student has completed greater than 60 % of the term, the student earns 100% of the Federal student financial assistance.

The amount earned will be based on the % of the term that was completed in days up to and including the last date of attendance. To calculate the amount earned, the school will determine the percentage by dividing the number of calendar days completed in the term up to and including the last date of attendance by the total number of calendar days in the term.
If the student received more than the amount of Federal student financial assistance earned, the difference will be returned to the Federal student financial assistance programs from which funds were received in the following order: Unsubsidized Direct Loan, Subsidized Direct Loan, PLUS Loan, Pell Grant, Funds will be returned to the aid source within 45 days of the date that the school determines that the student has withdrawn.
If more Federal student financial assistance has been earned than has been received, the student may be eligible for a post-withdrawal disbursement. The school will notify the student of any post-withdrawal disbursement for which the student may be eligible and what steps need to be taken for the Federal financial assistance funds to be received.
If Federal student financial assistance funds need to be returned, the institution will return a portion or all of the unearned funds equal to the lesser of:

- *The institutional charges multiplied by the percentage of the unearned Federal student financial assistance funds; or*
- *The entire amount of unearned funds.*

If there are remaining unearned Federal financial aid funds to be returned, the student must return any loan funds that remain to be returned in accordance with the terms and conditions of the promissory note. If the remaining amount of funds to be returned includes grant funds, the student must return any amount of the overpayment that is more than half of the grant funds received. The college will notify the student as to the amount owed and how and where it should be returned.

It is the student's responsibility to personally notify college officials of intent to withdraw from college. College officials will determine the last date of attendance for each student based on attendance records.

If a student does not submit a written notification, the college will determine that the student has unofficially withdrawn. Withdrawal date is based upon federal regulations, and institutional records.

Unofficially withdrawn students are required to promptly remove all outstanding encumbrances. Subsequent to the cancellation period calculation of refund amount will be made in accordance with refund policy. The applicable policy that results in the largest refund to or on behalf of the student is used.

1. *Refund computations will be based on scheduled course time of class attendance through the last date of attendance. Leaves of absence, suspensions and college holidays will not be counted as part of the scheduled class attendance.*
2. *The effective date of termination for refund purposes will be the earliest of the following:*
   - *(a) The last day of attendance, if the student is terminated by the college;*
   - *(b) The date of receipt of written notice from the student; or*

(c) Ten college days following the last date of attendance.

If tuition and fees are collected in advance of entrance, and if after expiration of the 72-hour cancellation privilege the student does not enter school, not more than $100 in any administrative fees charged shall be retained by the college for the entire residence program or synchronous distance education course.

If a student enters a residence or synchronous distance education program and withdraws or is otherwise terminated after the cancellation period, the college may retain not more than $100 in any administrative fees charged for the entire program. The minimum refund of the remaining tuition and fees will be the pro rata portion of tuition, fees, and other charges that the number of hours remaining in the portion of the course or program for which the student has been charged after the effective date of termination bears to the total number of hours in the portion of the course or program for which the student has been charged, except that a student may not collect a refund if the student has completed 75 percent or more of the total number of hours in the portion of the program for which the student has been charged on the effective date of termination.

Refunds for items of extra expense to the student, such as books, tools, or other supplies are to be handled separately from refund of tuition and other academic fees. The student will not be required to purchase instructional supplies, books and tools until such time a s these materials are required.

Once these materials are purchased, no refund will be made. For full refunds, the school can withhold costs for these types of items from the refund as long as they were necessary for the portion of the program attended and separately stated in the enrollment agreement. Any such items not required for the portion of the program attended must be included in the refund.

A student who withdraws for a reason unrelated to the student's academic status after the 75 percent completion mark and requests a grade at the time of withdrawal shall be given a grade of "incomplete" and permitted to re-enroll in the course or program during the 12-month period following the date the student withdrew without payment of additional tuition for that portion of the course or program.
A full refund of all tuition and fees is due and refundable in each of the following cases:

- *An enrollee is not accepted by the college;*
- *If the course of instruction is discontinued by the college and this prevents the student from completing the course; or*
- *If the student's enrollment was procured as a result of any misrepresentation in advertising, promotional materials of the college, or representations by the owner or representatives of the college.*

REFUND POLICY FOR STUDENTS CALLED TO ACTIVE MILITARY SERVICE

- *A student of the college who withdraws from the college as a result of the student being called to active duty in a military service of the United States or the Texas National Guard may elect one of the following options for each program in which the student is enrolled:*
- *If tuition and fees are collected in advance of the withdrawal, a pro rata refund of any tuition, fees, or other charges paid by the student for the program and a cancellation of any unpaid tuition, fees, or other charges owed by the student for the portion of the program the student does not complete following withdrawal;*
- *A grade of incomplete with the designation "withdrawn -military" for the courses in the program, other than courses for which the student has previously received a grade on the student's transcript, and the right to re-enroll in the program, or a substantially equivalent program if that program is no longer available, not later than the first anniversary of the date the student is discharged from active military duty without payment of additional tuition, fees, or other charges for the program other than any previously unpaid balance of the original tuition, fees, and charges for books for the program; or*
- *The assignment of an appropriate final grade or credit for the courses in the program, but only if the instructor or instructors of the program determine that the student has:*
    1. *Satisfactorily completed at least 90 percent of the required coursework for the program; and*
    2. *(Demonstrated sufficient mastery of the program material to receive credit for completing the program.*
    3. *The payment of refunds will be totally completed such that the refund instrument has been negotiated or credited into the proper account(s), within 60 days after the effective date of termination.*

REFUND PRIORITY

Any refund due to, or on behalf of the students, will be distributed to the following order:

- *Private Institutional Sources of the Aid*
- *The Student*
- *Other*

NOTICE OF CANCELLATION SHALL BE MADE IN WRITING TO

The Director or Director of Education, Houston International College Cardiotech Ultrasound School, 12135 Bissonnet, Suite E, Houston, Texas.77099

EMPLOYMENT GUARANTEE DISCLAIMER:

***Houston International College Cardiotech Ultrasound School Cannot Guarantee Employment for Any Graduate**.*

***Complaints:** Complaints against the college shall be registered with the Texas Workforce Commission by sending a letter to:*

Texas Workforce Commission, Career Schools and Colleges, 101E 15th Street, Austin. Texas 78778-0001. Tel: 512-936-3100

Programs included in ABHES Grant Of Accreditation

Program	*Program Clock Hours*	*Total Clock Hours*	*Length in Weeks*	*Academic Semester Credit Hours*	*Method of Delivery*	*Credential Awarded*
Diagnostic Medical Sonography	*1910*	*2306*	*75D*	*72*	*Residential*	*Associate of Applied Science*
Echocardiogram Technician	*1878*	*2268*	*75D/E*	*73*	*Residential*	*Certificate*
Vascular Sonography	*1830*	*1830*	*75D/E*	*72*	*Residential*	*Associate of Applied Science*

ALL PROGRAMS ARE RESIDENTIAL

Texas Workforce Commission approves all programs offered by Houston International College Cardiotech Ultrasound School. Texas Higher Education Coordinating Board approves all degree programs Houston International Cardiotech Ultrasound School offers some courses online.

PROGRAMS APPROVED BY THE TEXAS WORKFORCE COMMISSION/ LENGTH AND CREDITS

Associate of Applied Science in Diagnostic Medical Sonography	*2306*	*72*	*75 Weeks/5 Semesters (D)*
Associate of Applied Science in Vascular Sonography	*1830*	*72*	*75 Weeks/5 Semesters (D/E)*
Echocardiogram Technician	*2268*	*73*	*75 Weeks/5 Semesters (D*
Diagnostic Medical Sonography	*1634*	*60*	*60 Weeks/5 Semesters (D)*
Cardiovascular Technology	*1574*	*60*	*60 Weeks/4 Semesters (D)*
Monitor Technician	*574*	*22.5*	*30 Weeks/2 Semesters (D)*
Vascular Ultrasound Technology	*1603*	*63.5*	*60 Weeks/4 Semesters (D)*
EKG Technician	*339*	*15.5*	*15 Weeks/1 Semester (D)*
Practical Cardiovascular Sonography	*375*	*16*	*15 Weeks/1 Semester (D)*

CLINICAL EXTERNSHIP FOR ALL ACTIVE PROGRAMS

CLINICAL PLACEMENT/STUDENT PROFESSIONALISM

Clinical placement is available to all students. Students must be prepared to travel outside their immediate area whenever necessary to attend clinical rotations. Students go through clinical orientation each semester so as to ensure that they exhibit professionalism in the workplace. Students must adhere to all the rules of the clinic and must at no time pose as an employee of the clinic. Failure to adhere to clinical rules may result in expulsion from the clinic and possibly from the program. The college is obligated to place the student at one clinical site, therefore, if the student is expelled from a site due to their own misconduct, the school is not obligated to find a new clinical site and the student may be expelled from the program.

Clinical rotation begins the second year of the program. Students attend clinical sites three to five days per week from 8am to 5pm, and attend classes on campus two days per week from 8:00 am to 5 pm, depending upon which classes they are taking.

The vital components of clinical competency that are evaluated during clinical rotation include cognitive, psychomotor and affective domains. Cognitive (knowledge) and psychomotor (skills) are measured by how well students merge their classroom knowledge into clinical skills in a clinical setting. Affective domain allows students to express behavioral attitudes, interest, values appreciations and emotional sets of biases. This includes interactions with patients, colleagues, supervisors, nurses, physicians. Affective domain monitors students' behavioral pattern in a professional setting.

Students' progression (See SAP).Improvement toward attaining the program's goals as an entry level Sonographer is evaluated through the use of monthly evaluations, completed by clinical preceptors and /faculty Evaluations are 25% of the clinical grade. In addition, students must pass a clinical competency each semester. Competencies grade value 50% of the final.. Students must independently complete examinations in accordance with the current guidelines from the college and/or clinical site.

GRADING

Attendance	*25%*
Monthly evaluations/assignments	*25%*
Competencies	*50%*

Students must attend clinical rotations on days and hours scheduled by the Clinical Director and the clinical site. Students may not rearrange the clinical schedule. Students must adhere to the official clinical schedule. ***CLINICAL ABSENCES WILL AFFECT CLINICAL GRADE.***

STUDENTS' CLINICAL PROGRESSION MONITORING

The clinical director monitors students' progress during clinical rotation through close coordination with the supervising Sonographers at the clinical site. Follow-up communication between the clinical director and clinic supervisor are done routinely by phone or emails.

Evaluations are completed by the preceptor/clinical faculty. Clinical competencies are measured using the Likert scale to indicate student progression or lack of progression.

All clinical documentation must be completed daily and submitted by the end of the semester. All missed clinical hours must be completed before the end of each semester or the student will be given an Incomplete until the hours are completed. Emergencies must be reported to the clinical director. Please see the Clinical Manual for complete details.

ADDITIONAL CLINICAL EXPECTATIONS AND REQUIREMENTS

The college reserves the right to have students complete their clinical rotations at Cardiotech Diagnostic Imaging Clinic, if students do not exhibit professional or ethical behavior on campus, are unreliable, or are in violation of any school policy. Clinical sites and the college have the right to remove a student from the site if the student is unreliable or violates policies set by either the clinical site or college. Students must be prepared to accept constructive criticism. Students must complete clinical hours within the allotted time frame - there are no exceptions. Failure to comply with the rules for clinical rotations may result in the student being disallowed from completing the program. Student may not represent him/herself as an employee of the clinical site at any time.

CLINIC ORIENTATION

All students must complete a professional clinical orientation before attending clinical rotations

STUDENT ID CARDS

ID cards are assigned to all students by the school and must be worn on campus. Both school ID and/or clinical sites student ID card must be worn during clinical rotation.ID cards must be returned to the college upon withdrawal or graduation

GROOMING

Uniform is required by the school and must be worn both on campus and on at the clinical site by all students.

UNIFORM

Student must be well-groomed, uniform must be clean, and personal hygiene must be adhered to on campus and attending clinical rotation

Safety and Precautions

Proper hand washing techniques must be administered at all times. HIPPA standards and recommended standards must be followed at all times by all students to ensure patients privacy. All students must also apply proper body mechanics when moving patient or equipment. Universal precautions must be implemented by students during clinical rotation. and lab practice.

PROGRAM DESCRIPTION

Associate of Applied Science in Vascular Sonography

CIP-51.0910

PROGRAM MISSION-PURPOSE:

The Associate of Applied Science in Vascular Sonography program mission is providing students with knowledge, skills and behavioral blueprints to become competent Vascular Sonographers, thus enabling them to produce superior diagnostic procedures for the patients they serve.

PROGRAM DESCRIPTION:

A Vascular Sonographer is a healthcare professional who utilizes medical ultrasound in various medical settings to gather sonographic data to aid in the diagnosis of a variety of medical conditions and diseases. The Vascular Sonographer records and processes anatomical and pathophysiological data for integration with medical history, and properly communicates those findings to a licensed physician. In addition, the Vascular Sonographer educates patients in matters that involve medical ultrasound procedures, and promotes basic principles of good health.

This program is designed to train entry level Vascular Sonographers to assist physicians in the diagnosis and treatment of a wide variety of disorders affecting the vascular system. Students are taught by experienced Vascular Sonographers and physicians. The program is five semesters including the summer semesters. The first two semesters consist of classroom, laboratory, and patients' observation. The last three semesters students attend clinical rotation and perform procedures under the supervision of experienced Vascular Sonographers.

Graduates work in hospitals, imaging centers, mobile vascular labs, and physician's offices. Learning outcome categories include but are not limited to the categories listed below.

PROGRAM EDUCATIONAL GOALS:

1. *Provide Students opportunities to learn how to utilize diagnostic techniques, and make sound decision to offer patient services as entry level Vascular Sonographers.*
2. *Prepare competent entry level Vascular Sonographer in psychomotor, cognitive and affective learning domains thus giving them the tools necessary for entering the field of Vascular Sonography.*
3. *Prepare students to utilize critical thinking skills, communicate effectively and exemplify professional ethics.*
4. *Provide additional general courses of instruction in addition to Vascular Sonography courses such that an Associate of Applied Science in Vascular Sonography degree is earned.*
5. *Provide students with an understanding of anatomy and physiology, vascular pathophysiology, normal mechanical, physical, and biochemical functions of the vascular systems, critical thinking, and knowledge of vascular equipment.*
6. *Provide qualified faculty to ensure that graduates gain both didactics and vascular scanning skills necessary for entry level position as a Vascular Sonographer upon graduation.*
7. Respond to the needs of the local Vascular Sonography community.

STUDENTS LEARN TO:

- *Use mathematical skills as related to various aspects of technology appropriate for the task Cognition: Students are able to*
- *Use critical thinking skills to analyze, evaluate and synthesize information and ideas*
- *Use independent judgment and systematic problem-solving methods to produce high quality diagnostic information and optimize patient care.*
- *Global knowledge, responsibility and community consciousness: Students must demonstrate an understanding of different cultures, knowledge of historical eras and importance of community involvement.*
- *Perform patient assessment plans for individual patient.*
- *Perform vascular sonogram.*
- *Identify spectral and color-flow Doppler artifacts.*
- *Demonstrate the ability to obtain a patient history and determine appropriate diagnostic pathways.*
- *Demonstrate the ability to work effectively with a team.*
- *Prioritize patient safety, including patient transfer, and immobilization techniques.*
- *Demonstrate proper patient positioning and scan/test techniques for non-invasive vascular tests.*
- *Acquire and analyze data obtained using ultrasound and related diagnostic technologies.*
- *Compile vascular sonography findings for submission to the interpreting physician to aid in patient diagnosis and management.*
- *Select appropriate technical factors to produce images within the limits of the ALARA principle.*
- *Describe non-invasive vascular test indications, test capabilities, and limitations pertaining to vascular physiology, pathology and pathophysiology.*
- *Describe post-interventional use of non-invasive vascular testing.*
- *Describe the capabilities, limitations, and contraindications of invasive/correlative vascular tests relative to vascular diseases pathologies.*
- *Describe the mechanism of vascular diseases on vessels.*
- *Describe therapeutic medical, surgical, and non-surgical vascular interventions.*
- *Explain the normal physiology of blood circulation and the abnormalities that can occur in the presence of vascular diseases.*
- *Identify and describe signs, symptoms, and risk factors of vascular diseases.*
- *Identify and describe the parameters used in interpretation of non-invasive vascular tests.*
- *Identify vascular pathologies.*

- *Identify invasive and other correlative vascular tests relative to vascular pathologies.*
- *Identify normal vascular anatomy and recognize normal variants.*
- *Identify the characteristics that discriminate between, arterial and venous flow patterns.*
- *Recognize the function, and sonographic appearance of vascular grafts.*

NUMBER OF STUDENTS ADMITTED TO THE PROGRAM

The maximum number of students accepted in each class is twelve (12). The Vascular program starts in the Spring, Summer and Fall each year

STUDENT CLASSIFICATION:

FRESHMAN:	24 or less semester credits hours
SOPHOMORE:	25-48 semester credits hours
JUNIOR:	49-60 semester credits hours
SENIOR:	61 or more semester credits hours

REGISTRY:

A few states require Vascular Sonographers to be registered. Requirements vary by state. Most employers prefer to hire Vascular Sonographers with professional certification. Medicare and many insurance providers pay for procedures only if it is performed by a registered Sonographer. Graduates must be mindful that registration may be a condition for employment. All students are required to take the registry exams prior to graduation.

CREDENTIALING AGENCIES:

Graduates of the Associate of Applied Science program may apply and sit for the registry after upon completion of the program with. Cardiovascular Credentialing International (CCI) or ARRT. Those wanting to write the ARDMS registry exam must have the RCS, RCCS or RVS Credential or Sonography, Vascular Sonography or Breast Sonography through American Registry of Radiologic Technologist. The college or program is not affiliated with the American Registry for Diagnostic Medical Sonographers (ARDMS), Cardiovascular Credentialing International (CCI) or the American Registry of Radiologic Technologist (ARRT). These are private independent agencies making the rules for admissions to the exams. ***Under the current criteria for writing the registry exams, admissions to the exams are solely the responsibility of the examining body. The program cannot guarantee future eligibility for these exams. Students are advised to check frequently with these agencies for information regarding all examinations.***

PHYSICAL DEMANDS INCLUDE:

- *Vascular sonography is a physically demanding job which requires Vascular Sonographers to work long hours standing, walking and also require a full range of body motion*
- *Handling and lifting of patients*
- *Manual dexterity*
- *Eye-hand coordination*
- *Movement of patients and heavy diagnostic ultrasound and physiological equipment*
- *Patient positioning to minimize physical stress on the Sonographer and avoid musculoskeletal injuries*
- *Being physically fit*
- *Having good technical skills for operating complex diagnostic systems*

Master Curriculum Outline

Students must complete a total of 27 semester credits in General Education and 45 core curricula semester credit hours of the Vascular Sonography. Total Program Hours: 1830

General Education and Health Related Course: 27 Semester Credits

Courses	*Semester Credits*	*Lecture Hours*	*Lab Hours*	*Clinical Hours*
Communication	*3*	*45*	*0*	*0*
College Algebra	*3*	*45*	*0*	*0*
Anatomy & Physiology	*4*	60	*0*	*0*
Medical and Sonographic Terminology	*1*	*15*	*0*	*0*

General Physics	*3*	*45*	*0*	*0*
Sonography Medico Legal Issues and Patient Care	*3*	*45*	*0*	*0*
Physiological Psychology	*3*	*45*	*0*	*0*
Pathophysiology	*4*	60	*0*	*0*
Sonographic Physics and Instrumentation	*3*	45	*0*	*0*
Total Hours	***27***	**405**	***0***	***0***

Core Courses	***Semester Credits***	**Lecture Hours**	**Lab Hours**	***Clinical Hours***
Vascular Anatomy, Physiology & Hemodynamics	*3*	*45*	*0*	*0*
Principles of Vascular Sonography 1	*4*	*60*	*0*	*0*
Principles of Vascular Sonography 11	*4*	*60*	*0*	*0*
Vascular Pathology 1	*3*	*45*	*0*	*0*
Vascular Pathology 11	*3*	*45*	*0*	*0*
Principles of Vascular Sonography 11 Lab	4	*0*	*135*	*0*
Principles of Vascular Sonography 111 Lab	4	*0*	*135*	*0*
Vascular Clinical Rotation 1	1	*0*	*0*	*45*
Vascular Clinical Rotation 11	9	*0*	*0*	*405*
Vascular Clinical Rotation 111	10	*0*	*0*	*450*
Total Hours	***45***	***660***	***270***	***900***

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Vascular Sonography Program Hours

Total Clock Hrs	**Semester Hrs**	**Lecture Hrs**	**Lab Hours**	**Clinical Hrs**
1830	**72**	**660**	**270**	**900**

Master Curriculum Completion Plan

Semester 1	***Total Semester Credit Hours***	***14***	***210***
Course Number	***Course Name***	***Number of Credits***	***Number of Clock Hours***
MATH 110	College Algebra	***3***	*45*
BIO 216	Anatomy & Physiology	***4***	*60*
DMS 200	Medical and Sonographic Terminology	***1***	*15*
PHY 216	General Physics	***3***	*45*
VAS 214	Vascular Anatomy, Physiology and Hemodynamics	***3***	*45*

Semester 2	***Total Semester Credit Hours***	***17***	***330***
Course Number	***Course Name***	***Number of Credits***	***Number of Clock Hours***

PC 200	Sonography Medico Legal Issues and Patient Care	***3***	*45*
PHY 220	Sonographic Physics and Instrumentation	***3***	*45*
VAS 317	Vascular Pathology 1	***3***	*45*
VAS 220	Principles of Vascular Sonography 1	***4***	*60*
VAS 221	Principles of Vascular Sonography I Lab	***4***	*135*

Semester 3	***Total Semester Credit Hours***	***16***	***345***
Course Number	***Course Name***	***Number of Credits***	***Number of Clock Hours***
VAS 318	Vascular Pathology 11	***3***	*45*
BIO 111	Pathophysiology	*4*	*60*
VAS 219	Vascular Clinical Rotation 1	1	45
VAS 220	Principles of Vascular Sonography 11	***4***	*60*
VAS 221	Principles of Vascular Sonography I1 Lab	***4***	*135*

Semester 4	***Total Semester Credit Hours***	***12***	***450***
Course Number	***Course Name***	***Number of Credits***	***Number of Clock Hours***
ENG 110	Communication	***3***	*45*
VAS 225	Vascular Clinical Rotation 11	9	405

Semester 5	***Total Semester Credit Hours***	***13***	***495***
Course Number	***Course Name***	***Number of Credits***	***Number of Clock Hours***
PSYC 110	Physiological Psychology	*3*	*45*
VAS 226	Vascular Clinical Rotation 111	10	450

Program Total Semester Credits = 72 ***Program Total Clock Hours = 1830***

1 Semester Credit Lecture =	15 Clock Hours =	1 Semester Credit Hour
1 Semester Credit Lab =	30 Clock Hours =	1 Semester Credit Hour
1 Semester Credit Externship =	45 Clock Hours =	1 Semester Credit Hour

COST OF ATTENDANCE EXCLUDING HOUSING AND TRANSPORTATION……See page 9 of catalog.

Salary: *Sonographers are among the highest paid medical technician. Salaries are generally based on various factors which include the following:*

a. Demand
b. Level of Training
c. Experience
d. Employer
e. Geographical location
f. Full, part time or PRN employment

***SALARY SCALE**:*

Refer to www.DOL.Gov Occupational Outlook Handbook scales percentile wage estimates for Sonographer: Occupational Employment and Wages May 2019-2032.

STUDENT INSTRUCTOR RATIO:

The ratio of the student to instructor in the classroom is 12:1
The ratio of student to instructor on the externship site is maximum 1:1

LAB:

The lab at the Houston International College Cardiotech Ultrasound School is equipped with sufficient ultrasound machines to accommodate student . Lab Assessment is done by lab instructors at various stages of the program using a lab competency objectives evaluation form.

GRADING PERIOD:

Grades are cumulated at the end of each semester. The time frame in a semester is 15 weeks. Students are notified of their grades at the conclusion of each semester. Transcripts are upgraded at the end of each semester.

PROGRAM DESCRIPTION

Associate of Applied Science in Diagnostic Medical Sonography
CIP-51.0910

Program Mission-Purpose

The Associate of Applied Science in Diagnostic Medical Sonography program mission is providing students with knowledge, skills and behavioral blueprints to become competent Diagnostic Medical Sonographers thus enabling them to produce superior diagnostic procedures for the patients they serve.

Program Educational Goals

Provide students the venue to learn how to utilize diagnostic techniques, and make sound judgment to provide patient services as entry level Diagnostic Medical Sonographers.

Prepare competent entry level Diagnostic Medical Sonographers in psychomotor, cognitive and affective learning domains thus giving them the tools necessary for entering the field of Diagnostic Medical Sonography.

Prepare students to utilize critical thinking skills, communicate effectively and exemplify professional ethics.

Provide additional general courses of instruction in addition to Diagnostic Medical Sonographers courses such that an Associate of Applied Science in Diagnostic Medical Sonography degree is earned.

Provide students with an understanding of anatomy and physiology, pathophysiology, normal mechanical, physical, and biochemical functions of the body, critical thinking, and knowledge of Sonography equipment.

Provide qualified faculty to ensure that graduates gain both didactics and Ultrasound scanning skills necessary for entry level position as a Diagnostic Medical Sonographer upon graduation.

Respond to the needs of the local Diagnostic Medical Sonography community.

Learning outcome:

Upon completion of the program students are able to:

- Communicate *verbal and non-verbal modes of expression appropriate for the purpose and audience*
- *Use critical thinking skills to analyze, evaluate and synthesize information and ideas*
- *Use independent judgment and systematic problem-solving methods to produce high quality diagnostic information and optimize patient care.*
- *Global knowledge, responsibility and community consciousness: Students must demonstrate an understanding of different cultures, knowledge of historical eras and importance of community involvement*
- *Perform patient assessment plans for individual patient.*
- *Perform sonograms of the abdominal cavity, pelvis organs small parts and blood vessels.*
- *Identify spectral and color-flow Doppler artifacts.*
- *Demonstrate the ability to obtain a patient history and determine appropriate diagnostic pathways*
- *Demonstrate the ability to work effectively on a team.*
- *Prioritize patient safety, including patient transfer, and immobilization techniques.*
- *Demonstrate proper patient positioning and scan/test techniques for non-invasive vascular tests.*
- *Acquire and analyze data obtained using ultrasound and related diagnostic technologies.*
- *Compile sonographic findings for submission to the interpreting physician to aid in patient diagnosis and management*

- *Select appropriate technical factors to produce images within the limits of the ALARA principle*
- *Understand and describe test indications, capabilities, and limitations pertaining to physiology, pathology and pathophysiology.*
- *Describe the capabilities, limitations, and contraindications of invasive/correlative sonographic procedures relative to sonographic pathologies.*
- *Describe the mechanism of various diseases on vessels.*
- *Describe therapeutic medical, surgical, and non-surgical interventions.*
- *Explain the normal physiology and the abnormalities related to various diseases.*
- *Identify and describe signs, symptoms, and risk factors of various related diseases.*
- *Identify and describe the parameters used in interpretation of sonograms*
- *Identify sonographic pathologies of the fetus, neonate, breast, pelvic, and abdominal organs, blood vessels and small parts.*
- *Identify invasive and other correlative sonograms relative to sonographic pathologies.*
- *Identify normal anatomy and recognize normal variants.*
- *Identify the characteristics each organ.*
- *Recognize the function, and sonographic appearance of grafts and transplants.*

Personal Development: *Students must*

Demonstrate maturity, growth and self-management through practices that promote mental, emotional and physical wellbeing.

Number of Student admitted into the program.

The maximum number of students accepted in each class is ten (12). The Diagnostic Medical Sonographers program starts three times per year. Spring, Summer and Fall.

Student Classification

Freshman	*24 or less semester credits hours*
Sophomore	*25-48 semester credits hours*
Junior	*49-60 semester credits hours*
Senior	*61 or more semester credits hours*

Registry:

Four states require Diagnostic Medical Sonographers to be registered. The state of Texas do not have this requirement. Many employers may require to hire Sonographers with professional certification. Medicare and many insurance providers pay for some sonography procedures only if it is performed by a registered Sonographer. Graduates must be mindful that registration may be a condition for employment.

Credentialing Information:

*Graduates of the Associate of Applied Science program in Diagnostic Medical Sonography may apply and sit for the registry after completing the program. the American Registry of Radiologic Technologist (ARRT)immediately after graduation and must be employed for a minimum of 1 year to take a Specialty exam through the American Registry for Diagnostic Medical Sonographers (ARDMS). The college has an agreement with American Registry of Radiologic Technologist (ARRT) for graduates to write the ARRT comprehensive Sonography and Vascular exam. The rules for American Registry for Diagnostic Medical Sonographers specialty exams are different. Graduates can direct their questions to ARDMS. The agencies administering the registry exams are private independent agencies and are responsible for the rules governing who can write their exams, A**dmissions to the exams are solely the responsibility of the examining body. The program cannot guarantee future eligibility for these exams. Students are advised to check frequently with these agencies for information regarding all examinations.***

Performance Requirements:

Physical Demands include:

Diagnostic Medical Sonography is a physically demanding job which requires sonographers to

- *Work long hours standing, walking and also require a full range of body motion,*
- *Handle and lift patients*
- *Utilize manual dexterity*
- *Utilize eye-hand coordination.*
- *Move patients and heavy diagnostic ultrasound and physiological equipment.*
- *Position patients minimizing physical stress on the Sonographer and avoiding musculoskeletal injuries.*
- *Be physically fit*
- *Have good technical skills for operating complex diagnostic systems.*

Cost of Attendance

See page 9 of catalog

Semester Hours Credit: 72

Program Length:

5 Semesters – Daytime/Evenings 75 Weeks Days/Evening
The maximum time allowed to complete this program is 150% from the start date.

Credential Awarded:

Associate of Applied Science Degree

Type of Educational Delivery:
Residence school—(TWC description of a residence school is one that offers at least one program that includes39 classroom instruction or synchronous distance education.

Course lectures and lab Schedule:
Monday through Friday
8:00 am – 5:00 pm

Students must complete all skills set identified in the scan. Students are allowed to complete clinical hours earlier, but must complete the required number of clinical hours.

Salary: *Refer to www.DOL.Gov Occupational Outlook Handbook scales percentile wage estimates for Sonographer: Occupational Employment and Wages, May 2019-2032.*

MASTER CURRICULUM OUTLINE

Students of the Associate of Applied Science Diagnostic Medical Sonography program must complete a total of 72 semester credits hours including 16 general education semester credits, 4 health related semester credits and 52 core curriculum semester credits hours.

General Education Requirement		***16 Semester Credits***
English:	*Communication*	*3 Semester Credits*
Mathematics:	*College Algebra*	*3 Semester Credits*
Natural Sciences:	*Anatomy & Physiology*	*4 Semester Credits*
	Physiological Psychology	*3 Semester Credits*
	General Physics	*3 Semester Credits*
Health Related:	*Pathophysiology*	*4 Semester Credits*
Diagnostic Medical Sonography Core		***52 Semester Credits***

4 Semester Credits

Sonography Medico legal Principles & Patient Care	*3 Semester Credits*
Sonographic Physics and Instrumentation	*3 Semester Credits*
Medical and Sonographic Terminology	*1 Semester Credits*
Sonographic Cross-Sectional Anatomy	*3 Semester Credits*
Sonographic Pathology	*4 Semester Credits*
Master Scan Lab1	*2 Semester Credits*
Obstetrics and Pelvic Sonography	*4 Semester Credits*
Small Parts, Breast and Vasculature Sonography	*3 Semester Credits*
Abdominal Sonography	*4 Semester Credits*
Master Scan Lab11	*3 Semester Credits*
Clinical Sonography Rotation 1	*2 Semester Credits*
Clinical Sonography Rotation I1	*7 Semester Credits*
Clinical Sonography Rotation III	*12 Semester Credits*

Curriculum Outline

Associate of Applied Science Diagnostic Medical

General and Health Related Courses

Course Number	*Course Name*	*Clock Hours*	*Skill Lab Hours*	*Clinical Hours*	*Outside Classroom Hours*	*Semester Credits*
BIO 110	*Anatomy & Physiology*	*60*	*0*	*0*	*30*	*4*
MATH 220	*College Algebra*	*45*	*0*	*0*	*22.5*	*3*
ENG 110	*Communication*	*45*	*0*	*0*	*22.5*	*3*
PSYC 110	*Physiological Psychology*	*45*	*0*	*0*	*22.5*	*3*
PHY 216	*General Physics*	*45*	*0*	*0*	*22.5*	*3*
BIO 111	*Pathophysiology*	*60*	*0*	*0*	*30*	*4*

Core Courses

Course Number	*Course Name*	*Lecture Clock Hours*	*Skill Lab Hours*	*Clinical Hours*	*Outside Classroom Work*	*Semester Credits*
PC 200	*Sonography Medico Legal Principles & Patient Care*	*45*	*0*	*0*	*22.5*	*3*
PHY 220	*Sonographic Physics and Instrumentation*	*45*	*0*	*0*	*22.5*	*3*
DMS 212	*Medical and Sonographic Terminology*	*15*	*0*	*0*	*7.5*	*1*
DMS 216	*Abdominal Sonography*	*60*	*0*	*0*	*30*	*4*
DMS 214	*Small Parts, Breast and Vasculature Sonography*	*60*	*0*	*0*	*30*	*4*
DMS 213	*Obstetrics and Pelvic Sonography*	*60*	*0*	*0*	*30*	*4*
DMS 215	*Sonographic Pathology*	*60*	*0*	*0*	*30*	*4*
DMS 317	*Master Scanning Lab 1*	*0*	*130*	*0*	*30*	*4*
DMS 318	*Master Scanning Lab 11*	*0*	*130*	*0*	*30*	*4*
DMS 319	*Clinical Sonography Rotation 1*	*0*	*0*	*155*	*0*	*3*
DMS 320	*Clinical Sonography Rotation 11*	*0*	*0*	*290*	*0*	*6*
DMS 321	*Clinical Sonography Rotation 111*	*0*	*0*	*560*	*0*	*12*
		645	***260***	***1005***	***396***	***72***

Mas ***Total Hours***	**Clock 1910**	**Lecture 645**	**Lab 260**	**Clinical 1005**	**Credits 72**

Master Curriculum Completion Plan

Course Number	Course Name	Credit Hours
Total Credits Semester 1		***17***
BIO 110	*Anatomy & Physiology*	*4*
MATH 220	*College Algebra*	*3*
ENG 110	*Communication*	*3*
DMS 212	*Medical and Sonographic Terminology*	*1*
PHY 216	*General Physics*	*3*
PC 200	*Sonography Medico Legal Principles & Patient Care*	*3*
Total Credits Semester 2		***14***
PHY 220	*Sonographic Physics and Instrumentation*	*3*
PSYC 110	*Physiological Psychology*	*3*
DMS 317	*Master Scanning Lab 1*	*4*
DMS 216	*Abdominal Sonography*	*4*
Total Credits Semester 3		***15***
DMS 319	*Clinical Sonography Rotation 1*	*3*
DMS 214	*Small Parts, Breast and Vasculature Sonography*	*4*
DMS 318	*Master Scanning Lab 11*	*4*
DMS 213	*Obstetrics and Pelvic Sonography*	*4*
Total Credits Semester 4		***14***
BIO 111	*Pathophysiology*	*4*
DMS 315	*Sonographic Pathology*	*4*
DMS 320	*Clinical Sonography Rotation 11*	*6*
Total Credits Semester 5		***12***
DMS 321	*Clinical Sonography Rotation 111*	*12*
Total Semester Credits		***72***

Credits = 72 ***Program Total Clock Hours = 1910***

1 Semester Credit Lecture =	15 Clock Hours =	1 Semester Credit Hour
1 Semester Credit Lab =	30 Clock Hours =	1 Semester Credit Hour
1 Semester Credit Externship =	45 Clock Hours =	1 Semester Credit Hour

COST OF ATTENDANCE EXCLUDING HOUSING AND TRANSPORTATION *See page 9 of catalog.*

SALARY: *Sonographers are among the highest paid medical technician. Salaries are generally based on various factors which include the following:*

a) Demand
b) Level of Training
c) Experience
d) Employer
e) Geographical location
f) Full, part time or PRN employment

SALARY SCALE: *Refer to www.DOL.Gov Occupational Outlook Handbook scales percentile wage estimates for Sonographer: Occupational Employment and Wages May 2019-2032.*

STUDENT INSTRUCTOR RATIO:
The ratio of the student to instructor in the classroom is 12:1
The ratio of student to instructor on the externship site is maximum 1:1

LAB
The lab at the Houston International College Cardiotech Ultrasound School is equipped with sufficient ultrasound machines to accommodate student Lab Assessment is done by lab instructors at various stages of the program using a lab competency objectives evaluation form.

GRADING PERIOD
Grades are cumulated at the end of each semester. The time frame in a semester is 15 weeks. Students are notified of their grades at the conclusion of each semester. Transcripts are upgraded at the end of each semester.

COST OF ATTENDANCE: See page 9

Students must purchase books and uniform from outside sources. A supply, uniform and booklist is provided to all students after registration. Prices subject to adjustment.

PROGRAM LENGTH:

Each Semester is 15 weeks

Students attend school for 5 Semesters. The maximum time allowed to complete this program is 150% from the start date. A limited enrollment is held to assure a good instructor to student ratio, and include both didactic and clinical training in a variety of environments. Students attend classroom lectures and labs for three semesters Monday to Friday between the hours of 8am and 5pm.

SCHEDULE:
A course schedule is provided each semester.

CREDENTIALING:
Graduates of the Associate of Applied Science program may apply and sit for the registry after completing an accredited program. Specialty exam are administered through the American Registry for Diagnostic Medical Sonographers (ARDMS) or the American Registry of Radiologic Technologist (ARRT). The college or program is not affiliated with the American Registry for Diagnostic Medical Sonographers (ARDMS). The college has an agreement with American Registry of Radiologic Technologist (ARRT)for graduates to write the exam. These are private independent agencies, and are responsible for the guidelines and rules for admissions to the various exams. Under the current criteria for writing the registry exams, ***admissions to the exams are solely the responsibility of the examining body. The program cannot guarantee future eligibility for these exams. Students are advised to check frequently with these agencies for information regarding all examinations.***

PROGRAM DESCRIPTION
Echocardiogram Technician Certificate
CIP-51.0910
CAAHEP Accredited

659 Didactic Hours | 315 Lab Hours | 904 Clinical Hours | 73 Semester Hour Credits | 1878 Clock Hours

5 Semesters | Credential Awarded: Certificate | Residential

PROGRAM DESCRIPTION

Technologists who use ultrasound to examine the heart chambers, valves, and vessels are referred to as Echocardiogram Technicians or Cardiac Sonographers. This profession requires application of good judgment, and the ability to provide competent medical services to patients using diagnostic sonography equipment. The images created with the use of ultrasound instrumentation are called cardiac sonograms or echocardiograms. Cardiac Sonographers "Echocardiogram Technicians" work under the supervision of a licensed physician. They may perform echocardiogram while the patient is either resting or after physical activity. Data obtained is used to assist the physician with diagnostic decision. Cardiac Sonographers "Echocardiogram Technicians" may administer medication to physically active patients to assess their heart function. Cardiac Sonographers "Echocardiogram Technicians" also may assist physicians who perform transesophageal echocardiography, which involves placing a small transducer in the patient's esophagus to obtain ultrasound images

PROGRAM OBJECTIVES

The program prepares students for an entry level position in Echocardiography labs in various Cardiac Non-invasive and X- ray departments at hospitals, clinics, imaging centers, or private physicians' offices.

Cost of Attendance: *See page 9*

Students must purchase books and uniform from outside sources. A supply, uniform and booklist is provided to all students after registration. Prices subject to adjustment.

Program Length:

Students attend school for 5 Semesters. The maximum time allowed to complete this program is 150% from the start date. A limited enrollment is held to assure a good instructor to student ratio, and include both didactic and clinical training in a variety of environments. Students attend classroom lectures and labs for three semesters Monday to Friday between the hours of 8am and 5pm.

Master Curriculum Completion Plan

Echocardiogram Technician Program Master Curriculum Completion Plan

Course Number	*Course Name*	*Credit Hours*
Total Credits Semester 1		***15***
BIO 110	*Anatomy & Physiology*	*4*
MATH 220	*College Algebra*	*2*
ENG 110	*Communication*	*2*
DMS 212	*Medical and Sonographic Terminology*	*1*
PHY 216	*General Physics*	*3*
PC 200	*Sonography Medico Legal Principles & Patient Care*	*3*
Total Credits Semester 2		***15***
PHY 220	*Sonographic Physics and Instrumentation*	*3*
PH101	*Cardiac Pharmacology*	*2*
ECHO 225	*Principles of Echocardiography*	*4*
ECHO 224	*Intermediate Echocardiography Lab Practicum*	*3*
ECHO 223	*Cardiac Electrophysiology*	*3*
Total Credits Semester 3		***17***
ECHO 230	*Echocardiography Clinical 1*	*1*

ECHO 228	*Cardiac Pathology1*	*6*
ECHO 226	*Advanced Principles of Cardiac Evaluation*	*3*
ECHO 227	*Advanced Adult Echocardiography Lab Practicum*	*3*
BIO 111	*Pathophysiology*	*4*
Total Credits Semester 4		***12***
ECHO 229	*Cardiac Pathology 11*	*3*
ECHO 231	*Clinical Sonography Rotation 11*	*9*
Total Credits Semester 5		***14***
ECHO 232	*Echocardiography Clinical 111*	*10*
ECHO-INTRO TO VAS 200	*Introduction to Vascular Ultrasound*	*2*
INTRO TO VAS 201	*Vascular Ultrasound Lab Practicum*	*2*
Total Semester Credits		***73***

Each Semester is 15 weeks.
Credits = 73 Program Total Clock Hours = 1878

1 Semester Credit Lecture =	15 Clock Hours =	1 Semester Credit Hour
1 Semester Credit Lab =	30 Clock Hours =	1 Semester Credit Hour
1 Semester Credit Externship =	45 Clock Hours =	1 Semester Credit Hour

SCHEDULE

A course schedule is provided each semester.

Credentialing:

Graduates of the Associate of Applied Science program may apply and sit for the registry after completing an accredited program. Specialty exam are administered through the American Registry for Diagnostic Medical Sonographers (ARDMS) or the American Registry of Radiologic Technologist (ARRT). The college or program is not affiliated with the American Registry for Diagnostic Medical Sonographers (ARDMS). The college has an agreement with American Registry of Radiologic Technologist (ARRT)for graduates to write the exam. These are private independent agencies, and are responsible for the guidelines and rules for admissions to the various exams. Under the current criteria for writing the registry exams, ***admissions to the exams are solely the responsibility of the examining body. The program cannot guarantee future eligibility for these exams. Students are advised to check frequently with these agencies for information regarding all examinations.***

The program prepares student how to obtain, review, and integrate pertinent patient history and supporting clinical data to facilitateoptimum diagnostic results.

The program prepares student to perform appropriate procedures and record anatomic, pathologic, and/or physiologic data for interpretation by a physician;

The program prepares student to record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician;

The program prepares student to exercise discretion and judgment in the performance of sonographic and/or other diagnostic services;

The program prepares student to demonstrate appropriate communication skills with patients and colleagues; The

program prepares student to act in a professional and ethical manner;

The program prepares student to provide patient education related to medical ultrasound and/or other diagnostic vascular techniques, and promote principles of good healing;

The program prepares student prepares students with the necessary skills and techniques to obtain two-dimensional tomographic photos of the heart, measure blood flow velocities within the chambers of the heart with high frequency wavelength device; The program prepares student to use ultrasound equipment to analyze the mechanical functions of the heart;

The program prepares student how to recognize cardiac pathophysiology;

At the completion of the program, the graduates will:

Have the necessary skills for entry level career advancement opportunities existing in the medical field as cardiac sonographers (echocardiogram technicians), administrators, cardiac research, or in commercial companies as application specialists, sales representatives, and technical advisors.

Acquire appropriate procedure and recordings of physiologic, pathologic, and anatomic data for

interpretation by cardiologist. Have the skills to communicate with patients and physicians

Develop an understanding with exercising good judgment in the performance of cardiac

noninvasive procedures. Be able to perform adequate echocardiographic measurements.

Be eligible to sit for the ARDMS and CCI credentialing examination. Be awarded a Certificate of

Completion.

The echocardiogram certificate program prepares the student to function as an entry level cardiac Sonographer in hospitals, clinics, doctors' offices or imaging centers.

The curriculum structure includes general prerequisite courses. The program is presented in the form of lectures, labs and clinical rotation.

Students have an option of buying uniforms, supplies and books at the college, if available, or from another source

Salary

Refer to The Department of Labor at www.DOL.Gov for median annual earnings of cardiovascular technologists and technicians.

Professional Credentialing

There are no regulations requiring Echocardiogram Technicians to be registered. Graduates of this program may seek voluntary national certification exams, Medical Sonographers (ARDMS). These organization have been recognized as credentialing agency for echocardiogram technicians' certification.
Certification may be a condition for employment. The college is not affiliated with Cardiovascular Credentialing International (CCI) or the American Registry for Diagnostic Medical Sonographers (ARDMS)

DIAGNOSTIC MEDICAL SONOGRAPHY

94 Didactic Hours | 240 Lab Hours | 900 Clinical Hours | 60 Semester Hours Credit |1634 Clock Hours
(This program is approved by TWC but is not included in the application for grant of accreditation)

Subject No.	Subject Title	Clock Hours Lecture	Clock Hours Clinical Lab.	Clock Hours Ext.	Clock Hours Total	Semester Credit Hours
BIO 110	Anatomy & Physiology	60			60	4
ENG 111	English Composition	30			30	2
MT 212	Medical Terminology	15			15	1
MT 211	Medico – Legal Issues and Patient Care	39			39	2.5
MATH 110	Mathematics	35			35	2
BIO 111	Pathophysiology	60			60	4
MS 105	Obstetrics Ultrasound	30	30		60	3
MS 106	Fetal & Neonatal Abnormalities	30			30	2
MS 107	Pelvic Sonography	30	30		60	3

Days: *60 Weeks/4 Semesters* ***Credential Awarded:*** *Certificate* ***Type of Educational Delivery:*** *Residential*

PROGRAM DESCRIPTION

PROGRAM OBJECTIVES

The Diagnostic Medical Sonography program prepares participants with the necessary skills and techniques to obtain two-dimensional tomographic photos of the abdominal cavity, small parts, pelvis, pregnant females and extremities with high frequency ultrasound device. This area of ultrasound involves the use of ultrasound equipment to analyze various body parts. The program will provide a holistic approach into the field of Diagnostic Medical Ultrasound in which students learn Pathophysiology, English Composition, Medico-Legal Issues and Patient Care, Anatomy and Physiology, Mathematics, Pharmacology, Applied Ultrasound Physics and Instrumentation. Graduates of this program learn the skills necessary for entry level career advancement opportunities existing in education, administration, research, and in commercial companies as education or application specialists, sales representatives, technical advisors, in Radiology Departments, clinics, imaging centers, or private physicians' offices etc. A certificate of completion will be awarded to the graduates of this program.

The curriculum is structured to include terms of prerequisite courses to prepare the students for success as a general ultrasound technician. This program is presented in the form of lectures, videotape, slide presentations, and the use of analytical equipment. Students generally have on average, three or more instructors during the classroom lectures and labs. The college cannot dictate who supervises the students while on clinical rotations. The school's clinical instructor acts as liaisons between the clinical sites and the students. No evening or weekend externship is available.

PROGRAM LENGTH

Students attend school for 5 Semesters. The maximum time allowed to complete this program is 150% from the start date. A limited enrollment is held to assure a good instructor to student ratio, and include both didactic and clinical training in a variety of environments. Students attend classroom lectures and labs for three semesters Monday to Thursday between the hours of 8:00 am and 5:00pm.

Students must complete a total of 11.5 semester credits pre requisites prior to starting the core curriculum of the Diagnostic Medical Sonography program.

Note: *Students have the option to purchase book, uniform and lab gowns from the college. These costs are included in the cost of attendance in the books and supplies section.*

Tuition: $21,162.00 | Registration: $100.00 | Books/Uniform, Supplies: $1440.00 | Lab and Liability Insurance $1235.00
Total Overall:Cost: $24,733.00

TUITION AND FEES:

PHY 210	*Applied Ultrasound Physics and Instrumentation*	*60*	*30*		*90*	*5*
MS 102	*Sonographic Cross-Sectional Anatomy*	*45*	*30*		*75*	*4*
MS 201	*Clinical Medical Sonography I*			*200*	*200*	*4*
MS 202	*Clinical Medical Sonography II*			*340*	*340*	*7.5*
MS 103	*Abdominal Sonography*	*30*	*30*		*60*	*3*
MS 104	*Small Parts Sonography*	*15*	*15*		*30*	*1.5*
VAS 200	*Introduction to Vascular Ultrasound*	*15*	*15*		*30*	*1.5*
VAS 201	*Vascular Ultrasound Lab Practicum*		*60*		*60*	*2*
MS 203	*Clinical Medical Sonography III*			*360*	*360*	*8*
	Total Program Hours	***494***	***240***	***900***	***1634***	***60***

Students are given a book, uniform and supplies list to purchase independently or opt to buy these items from the college during the period of enrollment.

PROFESSIONAL CREDENTIALING

*Ultrasound Technicians are not required to have licensure in the state of Texas**.** Graduates can refer to ARDMS or ARRT web sites for information about the various exams available. This agency is a private independent agency, and is subject to making the rules for admissions to the exams. Admissions to the exams are solely the responsibility of the examining boards. Certification may be a condition for employment.*

Salary: Refer to www.DOL.Gov handbook for information.

EKG TECHNICIAN

This program isapproved by TWC but it is not included in the application for grant of accreditation

174 Didactic Hours 45 Lab Hours 120 Clinical Hours 15.5Semester Hour

Credits/339 Clock Hours Days: 2 Semesters Credential Awarded:

Certificate Type of Educational Delivery: Residential

PROGRAM DESCRIPTION

Cardiology has experienced tremendous growth and development with the last decade. The need for EKG technicians in hospitals, clinics, and physicians' offices intensified and a shift from on-the-job training to formal training developed to ensure qualified technicians. EKG technicians are responsible for recording crucial cardiac electrophysiology data. The data collected is used in diagnosing and treating cardiac and blood vessel irregularities.

PROGRAM DESCRIPTION

Students will be trained for entry-level jobs in cardiac electrophysiology as an EKG technician. The program is completed in one semester. Students learn to operate equipment that records graphic tracing of the electrical impulses of the heart interprets graph data, maintain EKG equipment, prepare, and monitor patients during procedure, schedule appointments and maintain patient records. Graduates of this program learn the skills necessary to work in the capacity of entry-level EKG technicians in hospitals, clinics, or private physicians' offices.

This program is presented in the form of lectures, lab and clinical rotation. The core of the program is enhanced with the sciences of cardiac anatomy and physiology as well as Medico-Legal Issues and Patient Care.

PROGRAM LENGTH

Day students attend classes between the hours of 8am and 5:00 pm for a period of two semesters. All students complete externships to graduate from the program. Maximum time allowed to complete this program is 150% from the start date of the program. Clinical externship hours are mandatory to graduate from the program. All Clinical Lab assignments are done on campus.

CURRICULUM

Students must complete a total of 6.5 semester credits pre requisites prior to starting the core curriculum of the EKG technician program.

Students can purchase books, uniform and supplies independently. Students receive a booklist.

CERTIFICATION/LICENSURE

EKG technicians are not required to have licensure in the state of Texas. Graduates of this program may seek voluntary national certification that is available through Cardiovascular Credentialing International (CCI) or National health Careers Association (NHA). These agencies are recognized organizations for administering the exams. Certification may be a condition for employment.

SALARY

Refer to The Department of Labor at www.DOL.Gov for median annual earnings of cardiovascular technologists and technicians.

Subject No.	Subject Title	Clock Hours Lecture	Clock Hours Clinical Lab.	Clock Hours Ext.	Clock Hours Total	Semester Credit Hours
BIO 100	Anatomy & Physiology	60			60	4
PC 100	Patient Care	15			15	1
MT 211	Medico-Legal Issues	24			24	1.5
EKG 100	EKG I	45	30		75	4
EKG 101	EKG II	30	15		45	2.5
CVT 210	EKG Clinical			120	120	2.5
	Total Program Hours	174	45	120	339	15.5

MONITOR TECHNICIAN

This program is not included in the application for grant of accreditation

204 Didactic Hours | 75 Lab Hours | 295 Clinical Hours | 22.5 Semester Hour Credits | 574 Clock Hours Days: 30 Weeks/2 Semesters

Credential Awarded: Certificate | Residential

PROGRAM DESCRIPTION

The need for Monitor Technicians intensified in hospitals, clinics and physicians' offices within the last decade. New standards were set and a shift from on-the-job training to formal training developed to ensure qualified technicians. Monitor Technicians are responsible for monitoring and recording crucial electrical data from the heart. The data collected is used in diagnosing and treating cardiac and blood vessel irregularities.

PROGRAM GOALS

Students will be trained for entry-level jobs in cardiac monitoring. This program involves study through lectures, video presentations, and the use of analytical equipment. Students of this program learn interpretation of advanced Electrocardiograph data, recording and sampling techniques, monitor equipment operation, monitor equipment maintenance, patient preparation, monitor hook-up and scan. Graduates of this program learn skills necessary to work in cardiac monitor labs at hospitals, clinics, or private physicians' offices. A certificate of completion will be awarded to the student upon successful completion of this program.

This program is presented in the form of lectures, videotape, and slide presentations, and the use of analytical equipment. Day and evening students attend classes for two semesters. Maximum time allowed to complete this program is 150% from the day the student starts the program. Mandatory completion of one semester of clinical externship hours must be documented to graduate from the program.

CURRICULLUM

Students must complete a total of 7.5 semester credits prerequisites prior to starting the core curriculum of the Monitor Technician program.

Subject No.	Subject Title	Clock Hours Lecture	Lab Clock Hours	Externship Clock Hours	Total Clock Hours	Semester Credit Hours
MT 212	Medical Terminology	15			15	1.0
BIO 100	Anatomy & Physiology	60			60	4.0
PC 100	Patient Care	15			15	1.0
MT 211	Medico - Legal Issues	24			24	1.5
EKG 100	EKG I	45	30		75	4.0
EKG 101	EKG II	30	15		45	2.5
EKG 102	Cardiac Monitoring	15	30		45	2.0
CVT 211	MT Clinical			295	295	6.5
	TOTAL PROGRAM HOURS	**204**	**75**	**295**	**574**	**22.5**

Students can purchase uniform and supplies independently or opt to buy these items from the college during the period of enrollment.

Class Schedule:

Classes start three times each year. Students will attend class Monday through Thursday8:00 am to 5:00 pm. Each classroom hour consists of fifty (50) minutes. Ten (10) minutes breaks are given at the end of each consecutive hour for the first four hours, and twenty (20) minutes final break at the end of the last two-lecture or lab hours. Clinical site placement is based on availability. Most sites accommodate more than one area school; therefore, students must accept assigned sites to avoid delay in clinical rotations. Clinical placement may be delayed depending on availability of site. Students must be prepared to travel outside their immediate area whenever necessary to attend clinical rotation. Student may opt to accept Clinical rotation in or out of the state of Texas. Timeliness of Clinical rotation is based on availability upon completion of all labs and lectures. Students must follow all the rules of the clinic and must at no time pose as an employee of the clinic. Failure to adhere to clinical rules may result in expulsion from the clinic and possibly from the program. Houston International College Cardiotech Ultrasound is obligated to place the student at one clinical site, therefore if the student is expelled from a site due to misconduct of the student the school is not obligated to find a new clinical site.

PROFESSIONAL CREDENTIALING

Monitor Technicians are not required to have licensure in the state of Texas. Graduates of this program are encouraged to seek voluntary national certification that is available through Cardiovascular Credentialing International. Cardiovascular Credentialing International is the recognized organization for setting the Certified Cardiographic Technician examination. Certification may be a condition for employment. Salary

Refer to The Department of Labor at www.DOL.Gov for median annual earnings of cardiovascular technologists and technicians.

CARDIOVASCULAR TECHNOLOGY

(This program is not included in the application for grant of accreditation)

539 Didactic Hours | 135 Lab Hours | 900 Clinical Hours | 60 Semester Hour Credits | 1574 Clock Hours
Days: 4 Semesters | Evening: 5 Semesters | Credential Awarded: Certificate | Residential

PROGRAM DESCRIPTION

Students receive training in non-invasive cardiology diagnostic testing with concentration on Electrophysiology. Graduates of this program learn the necessary skills for entry level Cardiovascular Technician jobs in cardiac non-invasive labs, EKG departments, and stress labs, cardiopulmonary labs of hospitals, clinics and imaging centers.

PROGRAM GOALS:

Upon completion of the program students will be able to:

- *Utilize Holter Scanners*
- *Set up cardiac recorders*
- *Trouble shoot, and calibrate all equipment.*
- *Prepare patients for, EKG, Stress Test, and Ambulatory Cardiac Monitoring*
- *Perform EKG, Stress Tests*

- *Acquire information from Ambulatory Cardiac Recorders*
- *Interpret Cardiac Physiology data.*
- *Process information gathered from EKG, Stress Test, and Ambulatory Monitors*
- *Maintain patient files*
- *Retrieve patient data*
- *Schedule appointments*

Students attend classes for (30) hours per week for approximately 60 weeks. Students attend lectures and labs for twenty-

Subject No.	***Subject Title***	***Clock Hours Lecture***	***Clock Hours Clinical Lab.***	***Clock Hours Total***	***Semester Credit Hours***
BIO 110	*Anatomy & Physiology*	*60*			*4*
ENG 111	*English Composition*	*30*			*30*
PH 101	*Pharmacology*	*45*			*45*
MT 211	*Medico – Legal Issues and Patient Care*	*39*			*39*
MATH 110	*Mathematics*	*35*			*35*
MT 212	*Medical Terminology*	*15*			*15*
BIO 111	*Pathophysiology*	*60*			*60*
CVT 102	*Special Studies or projects in CV Technology*	*45*			*45*
EKG 100	*EKG I*	*45*	*30*		*75*
EKG 101	*EKG II*	*30*	*15*		*45*
CVT 101	*Stress Testing*	*15*	*30*		*45*
CVT 213	*Introduction to Cardiac Catherization Lab Procedures*	*60*			*60*
EKG 102	*Cardiac Monitoring*	*15*	*30*		*45*
CVT 214	*Cardiac Catherization Lab Competencies*	*45*	*30*		*75*
CVT 212	*CVT Clinical*				*900*
	Total Core Hours	***539***	***135***	***900***	***1574***

PROGRAM LENGTH:
60 weeks, (6) months, and clinical externship for twenty-six weeks, (6 .5) months. Maximum time allowed to complete this program is 9 weeks.

Mandatory completion of 900 clinical externship hours must be completed to graduate from the program. Although students attend lectures

This program is presented in the form of lectures, labs and clinical externship. All clinical externship rotations are scheduled during the daytime. There is no exception. Evenings and weekends externship is unavailable. All Clinical Lab assignments are done in the campus clinic.

Students may purchase uniforms and supplies independently. or opt to buy these items from the college, if available.

Cardiovascular Technicians are not required to have licensure in the state of Texas. Graduates of this program are encouraged to seek voluntary national certification which is available through Cardiovascular Credentialing International. Cardiovascular Credentialing International is the recognized organization for setting the Registered Cardiovascular Technician examination. Certification may be a condition for employment.

Salary: *Refer to The Department of Labor at www.DOL.Gov for median annual earnings of cardiovascular technologists and technicians.*

VASCULAR ULTRASOUND TECHNOLOGY
(This program is not included in the application for grant of accreditation)

63.5 Semester Credit Hours | 1603 Clock Hours

60 Weeks | 4 Semesters | Credential Awarded: Certificate | Residential

Program Description:

This program is designed to train entry level Vascular Sonographers/ technologists to assist physicians in the diagnosis and treatment of a wide variety of disorders affecting the peripheral vascular system. Graduates of the Vascular Ultrasound Technology program will learn how to use a wide range of ultrasound instrumentation to non-invasively acquire and record information related to blood vessel's anatomy and physiology. Graduates of this program will also learn to record the data on DVD or CD. The compiled data is reviewed/ interpreted by a vascular physician.

The graduates are trained for entry level Vascular Ultrasound jobs in hospitals, imaging centers, mobile vascular labs, and physician's offices. Full-time Vascular Sonographers/technologists generally work a 5-day, 40-hour week. Approximately one half are required to be on-call outside normal operating hours (e.g., evenings, and weekends). The Vascular Ultrasound technology profession is expected to grow through the year 2021.

Program Goal:

The graduate will gain both didactic and practical knowledge in Vascular Ultrasound Technology. The program is intended to provide students with an understanding of anatomy and physiology, vascular pathophysiology, normal mechanical, physical, and biochemical functions of the vascular systems, critical thinking, and knowledge of the vascular equipment. Vascular scan techniques are a critical part of this program.

Number of Student admitted into the program: *The maximum number of students accepted in each class is eight (8). The Vascular program starts twice a year in September and in May. Exact dates vary from year to year.*

Application to the Program: *Admission to the program is open to all applicants regardless of race, color, national origin, sex, age, handicap, or marital status. Applicants are accepted into the program based on academic achievement, work history, character references, assessments, personal interviews (telephone or face-to-face), and admission tests. The college reserves the right to limit enrollment in the program. (Refer to school's admission information).*

Program Length: *This program is four semesters in length Monday through Friday 8:00 am – 4:30 pm. The program comprises of three clinical rotations in a clinical setting. During the clinical externship, students attend clinical sites three days per week from 8:00am – 5:00 pm. Students also attend classes two days per week from 8:00 am – 4:30 pm. All students must attend clinical rotation in the daytime.*
The maximum allowable time to complete this program is one and a half times (150%) times the # of semester credit hours.
The length of the program excludes vacation time. (See schedule of vacation breaks).

Certification/Licensure: *Vascular Ultrasound Technology professionals are not required to have Certification /Licensure in the state of Texas.*
Certification may be a condition for employment.

Physical Demands: *Persons practicing Vascular Technology require a full range of body motion, including the handling and lifting of patients, manual dexterity, and eye-hand coordination. Performance of vascular involves standing, walking, and occasional moving of heavy sonographic equipment. Physical positioning of the patient is important in minimizing physical stress on the Sonographer and in avoiding musculoskeletal injuri*

Mental Demands: *The Vascular Sonographers/technologists are responsible for solving daily operational problems related to performing Vascular ultrasound procedures, including trouble-shooting equipment malfunctions. Vascular Sonographers must be prepared to recognize any condition, whether observed in the vascular examination or in-patient behavior that may pose an immediate threat to health or life and must react appropriately. Because of the unpredictable nature of vascular procedures (technical quality, unexpected vascular findings, e212tc), the Vascular Sonographer must exhibit flexibility, independent judgment, and critical thinking.*

CURRICULUM OUTLINE

Course Number	*Course Name*	*Clock Hours*	*Skill Lab Hours*	*Clinical Hours*	*Semester Credits*
BIO 110	*Anatomy & Physiology*	*60*	*0*	*0*	*4*
PC 100	*Patient Care*	*15*	*0*	*0*	*1*
MATH 110	*Mathematics*	*35*	*0*	*0*	*2*
ENG 111	*English Composition*	*30*	*0*	*0*	*2*
PHY 210	*Applied Ultrasound Physics and Instrumentation*	*60*	*30*	*0*	*5*
MT 212	*Medical Terminology*	*15*	*0*	*0*	*1*
BIO 111	*Pathophysiology*	*60*	*0*	*0*	*4*
VAS 200	*Introduction to Vascular Ultrasound*	*30*	*0*	*0*	*2*
VAS 211	*Venous Sonography*	*60*	*0*	*0*	*4*
VAS 212	*Vascular Ultrasound Lab Practicum*	*00*	*60*	*0*	*2*
VAS 217	*Cerebral vascular Sonography*	*60*	*0*	*0*	*4*
VAS 214	*Abdominal Vascular sonography*	*30*	*0*	*0*	*2*
VAS 215	*Vascular Lab Clinical Rotation I*	*0*	*0*	*180*	*4*
VAS 216	*Arterial Sonography*	*53*	*0*	*0*	*3.5*
VAS 213	*Registry Review*	*30*	*0*	*0*	*2*

Total Clock Hours	***Total Lecture Hours***	***Total lab Hours***	***Total Externship Hours***	***Total Semester Hours***
1603	***613***	***90***	***900***	***63.5***

Students can purchase uniform and supplies independently or opt to buy these items from the college, if available..

Program hours calculated based on semester credits are as follows:

Lecture	*15 clock hours equals 1 semester credit hour*
Lab	*30 clock hours equals 1 semester credit hour*
Externship	*45 clock hours equals 1 semester credit hour*

Salary: *The Department of Labor salary range for full time Vascular Sonographers/Technologists ranges from $30,000 to $100,000 annually. This may vary from state to state. More information on Salary can be found on the Department of Labor website.*

Practical Cardiovascular Sonography

This program is not included in the application for grant of accreditation

105 Lecture Hours | 270 Lab Hours | 0 Clinical Hours | 16 Semester Credit Hours | 375 Clock Hours

Days: 2 Semesters | Credential Awarded: Certificate | Delivery Type: Residential

PROGRAM DESCRIPTION:

This program is designed for persons holding a medical degree, nurses, or allied health professionals wishing to cross train in Practical Cardiovascular Sonography. Graduates of this program are cross trained to assist physicians in the diagnosis and treatment of a wide variety of disorders affecting the cardiovascular system utilizing ultrasound. Graduates learn how to use a wide range of ultrasound instruments to non-invasively acquire and record information of the heart. Graduates of this program will also learn to record hard copy data. The data compiled is reviewed and interpreted by cardiologist.

Specialized courses are taught by industry personnel. Healthcare professionals registered in this program are crossed trained to perform Cardiovascular Ultrasound procedures in hospitals, imaging centers, mobile units, and physician's offices. The cardiovascular sonography profession is expected to grow through the year 2021.

PROGRAM OBJECTIVE:

The program is designed to prepare the graduates to perform Cardiac and Vascular sonography through lectures and labs in practical cardiovascular sonography. The program is intended to provide students with critical understanding of cardiovascular scanning techniques, two-dimensional anatomy and hemodynamics, pathophysiology, and knowledge of the ultrasound equipment.

NUMBER OF STUDENTS ADMITTED INTO THE PROGRAM:

The maximum number of students accepted in each class is eight (8). The program starts two times per year in January and in September. Dates may vary from year to year. The student to instructor ratio for this program is 8:1.

EXTERNSHIP:

This program does not include external clinical site training. All Clinical Labs are done on campus. All practical work is done within the school labs utilizing the labs' ultrasound equipment to gain practical knowledge. Volunteers are allowed to sign up for procedures. Weekly lab assessment sheets are completed by the lab instructor. Scans will be evaluated and graded based on the use the Likert scale of 1-10.

ADMISSION REQUIREMENTS:

Admission to the college is open to all applicants regardless of race, color, national origin, sex, age, handicap, or marital status. Applicants are accepted into the program based on academic achievement, work history, character references, assessments, personal interviews (telephone or face-to-face), and admission tests. The college reserves the right to limit enrollment in the program
Drug screening is conducted on all student accepted into the program. The results of the drug test are generally accepted for the duration of the student's uninterrupted enrollment in the program, unless allegations are made to support reasonable cause that the student is not free of illegal drug use. Students entering the Practical Cardiovascular Sonography program are required to submit immunization record.

PROGRAM LENGTH:

Both day and evening students of this program complete 375 clock hours/16 Semester hours, and take 2 semesters to complete the program. Students attend classes for 18-24 hours each week on campus. Labs and lectures are Monday through Thursday 8:00am – 4:45 pm. Monday through Thursday. The maximum allowable time to complete this program is one and a half times - 150% times (x) the # of semesters in the program. The length of the program excludes vacation time. (See schedule of vacation breaks).

Registry Certification/Licensure

Graduates are not required to have Registry Certification /Licensure in the state of Texas; however, Registry certification is frequently a condition for employment. This program does not independently qualify a graduate for writing the ARDMS or CCI exam. Refer to the web sites of the testing agencies for additional information.

Professional Credentialing:

This program is designed for persons holding a medical degree, nurses, or allied health professionals wishing to gain additional skills in cardiovascular ultrasound technology. Persons seeking professional credentials must contact the credentialing agencies for details regarding requirements.
Students can purchase uniform and supplies independently or opt to buy these items from the college during the period of enrollment, if available.

Curriculum Outline

	Course Name	*Lec Hours*	*Lab Hours*	*Clinical Hours*	*Clock Hours*	*Total Semester Hours*
ECHO 225	*Echocardiography Principles*	*45*	*30*	*0*	*75*	*4*
ECHO 227	*Echocardiography Lab Practicum and Proficiency Testing*	*0*	*180*	*0*	*180*	*6*
ECHO 226	*Advanced Principles of Cardiac Evaluation*	*60*	*0*	*0*	*60*	*4*
VAS 212	*Vascular Ultrasound Lab Practicum*	*00*	*60*	*0*	*60*	*2*
	Total	***105***	***270***	***00***	***375***	***16***

Course Description

BIO 110: ANATOMY & PHYSIOLOGY ***60/0/0/4***

Students taking this course learn anatomy, physiology, and structural relationships of the various human systems. The course will concentrate on the structure and function of the human body, specialized terminology, and hemodynamics. ***Prerequisite: None***

BIO 111: PATHOPHYSIOLOGY ***60/0/0/4***

Students will learn to analyze the relationship between normal electromechanical physiology and the cardiovascular system alterations produced by disease processes, describing the etiology, developmental considerations, pathogenesis, and clinical manifestations of specific disease processes. **Prerequisite: Anatomy & Physiology**

CVT 101: STRESS TESTING ***15/30/0/ 2***

Students will recall the principles and protocols of stress testing, distinguish the different types of stress tests, and recall stress-testing techniques. Additionally, students will recall the concepts for the use of cardiac drugs during the stress test procedure. This course is a comprehensive overview of the knowledge, principles, and skills necessary for performing the stress test procedure. Lectures and laboratory practicum emphasizes technical accuracy in operational, problem solving, cardiac stress testing techniques, protocols, physiologic recording devices, and quality control skills and analysis of recorded data.

Prerequisite: EKG 101

CVT 102: SPECIAL STUDIES OR PROJECTS IN CV TECHNOLOGY ***45/0 /0 / 3***

Students learn through individual study, research, or projects in the field of Cardiovascular Technology under instructor's guidance about various cardiovascular topics. Written reports and or periodic conferences are required to complete the course. Content will be determined by student/instructor.

Prerequisite: None

CVT 211: MT CLINICALS ***0/0/295/6***

Participants of this course learn cardiac monitoring in the clinical environment. Practical general training and experience in the workplace include elements of routine patient-technician relationship, and the professional relationship between the physician and the technician. The school's faculty and employer develop and document specific competencies for students in a clinical setting. These competencies relate the workplace training and experiences to the student's general and technical course of study. In addition to clinical assignments, students attend on-campus lectures and laboratory classes. This course may require students to purchase professional liability insurance.

Prerequisite: EKG 102

CVT 212: CVT CLINICAL ***0/0/900/20***

This course introduces cardiovascular diagnostic testing in the clinical environment. Practical general training and experience in the workplace includes elements of routine patient–technician relationships and the professional relationships between the technician and the physician. The school's faculty and employer develop and document specific competencies for the student in a clinical setting. The competencies relate the workplace training and experiences to the student's general and technical course of study. Students are assigned to clinical sites in addition to on-campus lectures and laboratory classes. Students will perform EKG, stress tests, and ambulatory monitor procedures, set up and operate cardiovascular equipment, identify malfunctioning equipment and process acquired data for review by physicians. Additionally, students will demonstrate a high level of professionalism in the workplace. This course may require students to purchase professional liability insurance.

Prerequisite: EKG 102

CVT 213: INTRODUCTION TO CARDIAC CATHERIZATION LAB PROCEDURES 60/0/0/4

Introduction to procedures for basic care of patients in the Cardiac Catherization lab. The course discuss patient monitoring, vital signs, special consideration for the cardiac patient both physical and psychological, patient assessment, pre-and post-care routines, surgical scrubbing, gowning, and gloving, aseptic techniques and maintaining a sterile environment.

Prerequisite: Patient Care

CVT 214: CARDIAC CATHERIZATION LAB COMPETENCIES 45/30 /0/4

This primary focus of this course is to prepare the Cardiovascular Invasive Specialty student for entry into the Cardiac Catheterization lab as a clinical student. The focus of these competencies will help the student gain the understanding of principles and techniques used in the lab such as: Aseptic Technique, Gowning and gloving, Sterile Tray Setup, Patient Preparation, Access, Catheter Exchange, and Coronary Injections.

Cor-Requisite: Introduction to Cardiac Catherization Lab Procedures

CPR: CARDIOPULMONARY RESUSCITATION 4 /4 /0 /0

Students learn techniques and procedures necessary for administering basic Cardiopulmonary Resuscitation. This course follows guidelines set by the American Heart Association for the administration of basic life support.

Prerequisite: None

ECHO 230: ECHOCARDIOGRAPHY CLINICAL I 0 /0 /49/1

This is a clinical experience course with emphasis on cardiac sonographic procedures. The student is introduced to the workplace and focuses on practical training and experiences of the workplace. Through this exposure students will learn from active participation in the Echocardiography laboratory. Students are required to purchase medical and liability insurance, and to wear nametags identifying their status. The clinical site supervisor directs the student's day to day activities under the guidelines of the syllabus provided by the school.

Prerequisite: ECHO 225 Principles of Echocardiography

EKG 210: EKG CLINICALS 0 /0/120/2.5

Students learn EKG testing in the clinical environment. Practical general training and experience in the workplace include elements of routine patient-technician relationship, and the professional relationship between the physician and the technician. The school's faculty and employer develop and document specific competencies for the student in the clinical setting. The competencies relate the workplace training and experiences to the student's general and technical course of study. This course may require students to purchase medical liability insurance.

Prerequisite: EKG 101

PC 200: SONOGRAPHY MEDICO LEGAL PRINCIPLES & PATIENT CARE 45/0/0/3

Students taking this course must define the role of the Sonographer as a member of the allied health care profession. Students are prepared to take their place as a Sonographer in a clinical environment. Learning include scope of practice, legislative and regulatory issues, ethical and legal issues, patient safety and body mechanics, transportation strategies, clinical assessment, medical records creation and maintenance, patient care techniques including medical and surgical asepsis, universal precaution procedure and vital signs assessment. ***Prerequisite: None***

PHY 220: SONOGRAPHIC PHYSICS AND INSTRUMENTATION 45/0/0/3

This course is the study of physical principles of ultrasound, application of acoustic physics and specific diagnostic ultrasound equipment. The course provides lecture and laboratory practicum necessary to develop cognitive and manipulative skills in the clinical operations of specific diagnostic instruments.

Prerequisite: Math 220 College Algebra

DMS 213: OBSTETRICS AND PELVIC SONOGRAPHY 60/0/0/4

Study of obstetrics sonography, fetal development, neonatal brain and high-risk pregnancies. This course includes patient education, structures identification, transducer selection, image optimization, and scan protocols.

Prerequisites: Anatomy & Physiology

DMS 214: SMALL PART, BREAST AND VASCULATURE SONOGRAPHY 60/0/0/4

In this course participants study sonographic imaging of structures of the breast, thyroid, scrotum, and vasculature. Diagnostic, procedural, technical, and interventional sonographic imaging will all be covered in this course. **Prerequisite: Anatomy & Physiology**

DMS 215: SONOGRAPHIC PATHOLOGY 60/0/0/4

In this course participants study pathology and pathophysiology of structures of the breast, cavity and extremities as they relate to sonography.

***Prerequisite: DMS 213: OB*& Pelvic Sonography**

DMS 216: ABDOMINAL SONOGRAPHY 60/0/0/4

4 Sem Cr. /60 Lec. Hrs /0 Clinical hrs/0 lab hrs /30 outside classroom work hours Course Description: Students taking this course learn sonographic abdominal structures with emphasis placed on anatomy, function, sonographic techniques, features, and variants. Knowledge of the diagnosis, history and physical findings as they pertain to the abdominal organs is presented.

Prerequisite: Anatomy & Physiology

DMS 317: MASTER SCANNING LAB 1 0/120/0/4

This is a practical course. Participants scan live patients to develop the scan skills necessary for entry level positions as a Diagnostic Medical Sonographer. Students will practice and master full procedures in the lab to prepare them for clinical rotation.

Prerequisite: Anatomy & Physiology

DMS 318: MASTER SCANNING LAB 11 ***0/120/0/4***

This is a practical course is a continuation of Master Scan Lab 1. Participants scan live patients to develop the scan skills necessary for entry level positions as a Diagnostic Medical Sonographer. Students will practice and master full procedures in the lab to prepare them for clinical rotation.

Prerequisite: DMS 317 Master Scanning Lab 1

DMS 319: CLINICAL SONOGRAPHY ROTATION 1 ***0/0/135/3***

This course allows students to learn in a clinical environment. The student will observe, assist and perform various facets of Diagnostic Medical Sonography procedures ordered by a physician under the supervision of a practicing Sonographer. Emphasis is placed on improving scanning skills, recognition of Pathology and improvement of patient care abilities. **Prerequisites: DMS 316, Abdominal Sonography**

DMS 320: CLINICAL SONOGRAPHY ROTATION 11 ***0/0/270/6***

his course is a continuation of DMS 319 which allows students to learn in a clinical environment. The student will observe, assist and perform various facets of Diagnostic Medical Sonography procedures ordered by a physician under the supervision of a practicing Sonographer. Emphasis is placed on improving scanning skills, recognition of pathology and improvement of patient care abilities

Prerequisites: DMS 319: Clinical Sonography Rotation 1

DMS 321: CLINICAL SONOGRAPHY ROTATION 111 ***0/0/560/12***

This course is the final of three clinical rotations and a continuation of DMS 320 which allows students to learn in a clinical environment. The student will observe, assist and perform various facets of *Diagnostic Medical Sonography procedures ordered by a physician under the supervision of a practicing Sonographer. Emphasis is placed on improving scanning skills, recognition of pathology and improvement of patient care abilities.*

Prerequisites: DMS 320, **Clinical Sonography Rotation 11**

ECHO 225: ECHOCARDIOGRAPHY PRINCIPLES ***60/ 0 /0/4***

Students learn the principles of cardiac ultrasound imaging including cardiac anatomy, physiology, hemodynamics, scanning techniques and protocols used in the cardiac ultrasound procedures. Concentration on two-dimensional and M-mode and Doppler echocardiogram scanning motions and planes during the cardiac examination, patient histories and physical signs, patient preparations, provocative maneuvers, measurements and calculations. Additionally, students will gain the ability to identify echocardiographic windows, views and anatomical structures, data acquisition, and reporting.

Prerequisite: BIO 110 Anatomy & Physiology

ECHO 226: ADVANCED PRINCIPLES OF CARDIAC EVALUATION ***60/ 0/ 0/4***

This course provides the student with an understanding of the advanced modalities for diagnostic cardiac imaging. Methods, advantages, disadvantages and the effectiveness of the techniques are covered in the lectures. Students learn the principles of contrast, stress and transesophageal echocardiogram, cardiac imaging pharmaceuticals, cardiac catheterization, nuclear medicine, magnetic resonance, computerized tomography left ventricle assist devices, Pacemaker implantation. Indications, complications, provocative maneuvers, risk factors, protocols, and techniques used in each procedure. **Prerequisite: ECHO 225 Echocardiography Principles**

ECHO 224: INTERMEDIATE ECHOCARDIOGRAPHY LAB PRACTICUM ***0/90/0/3***

A practical course designed to ensure competency in the basic Cardiac Ultrasound skills. This course gives the student hands-on-scanning to insure development of their scanning abilities as well as the appropriate use of the protocol required in the practice of cardiac Sonography The acquisition of skills for performing two dimensional, M-Mode ultrasound images of the heart is gained by the students. Students also learn the calculation of specified hemodynamic parameters, and equipment trouble shooting.

Prerequisite: ECHO 221 Echocardiography Principles

ECHO 227: ADVANCED ADULT ECHOCARDIOGRAPHY LAB PRACTICUM ***0/90/0/3***

This is a continuation of the Intermediate Echocardiography Lab Practicum course. This practical course is designed to ensure competency in the acquisition of skills used in acquiring Cardiac Ultrasound images. In addition to mastering the necessary skills for the acquisition of two

dimensional and M-Mode echocardiogram, the students develop techniques for acquiring various modalities of Doppler ultrasound of the heart. Students perform calculation of specified hemodynamic parameters, and equipment troubleshooting.

Prerequisite: ECHO 224 Intermediate Echocardiography Lab Practicum

ECHO 228: CARDIAC PATHOLOGY I ***60/0 /0/4***

Students taking this course learn comprehensive details of pathology and pathophysiology of the adult population as visualized by cardiac ultrasound examination including the aorta, pulmonary arteries, and vena cava. Topics include Doppler flow abnormalities. Students will distinguish and recall the differences between various adult heart diseases including ischemic diseases, cardiomyopathies, pericardial disease, cardiac tumor, valvular diseases, diseases of the aorta, hypertensive heart diseases. Quantitative cardiac assessment utilizing 2-D, M-Mode, and Doppler will be discussed. Students will recall causes, symptoms, complications, consequences, and treatment of these pathologies.

Prerequisite: ECHO 225 Echocardiography Principles

ECHO 229: CARDIAC PATHOLOGY II ***45/0/0/3***

This is a continuation of Cardiac Pathology I. Students taking this course learn comprehensive details of congenital and acquired cardiac pathology and pathophysiology of the pediatric population as visualized with ultrasound examination. Students recall the indications for echocardiography in infants, child and adolescent. Students learn techniques for performing the echocardiogram examination in pediatric patients with congenital heart diseases. Students must recall room setup, electrodes, pacification, and sedation. This course is ideal for student wanting to specialize in pediatric echocardiography.

Prerequisite: ECHO 228 Cardiac Pathology I

ECHO 230: ECHOCARDIOGRAPHY CLINICAL 1

This clinical experience course puts emphasis on cardiac sonographic procedures. The student is introduced to the workplace environment and focuses on practical training and experiences within the workplace. Through this exposure students will learn from active participation in the echocardiography laboratory. Students are required to purchase medical and liability insurance, and to wear nametags identifying their status. The clinical site supervisor directs the student's day to day activities under the guidelines of the syllabus provided by the school.

Prerequisite: ECHO 224 Intermediate Echocardiography

Lab Practicum

ECHO 231: ECHOCARDIOGRAPHY CLINICAL II ***0/0/360/8***

This is a clinical experience course with emphasis on cardiac sonographic procedures. The student is introduced to the workplace, and focuses on practical training and experiences of the workplace. A minimum of 30 hours per week is spent in a Cardiovascular Lab. Students will learn from active participation in the echocardiography laboratory. Students are required to purchase medical and liability insurance, and to wear nametags identifying their status. The clinical site supervisor directs the student's day to day activities under the guidelines of the syllabus provided by the school.

Prerequisite: ECHO 230 Echocardiography Clinical 1

ECHO 232 ECHOCARDIOGRAPHY CLINICAL III ***0/0/544/12***

This course is a continuation of ECHO 229, and is a supervised clinical experience with emphasis on various cardiac sonographic procedures.

Prerequisite ECHO 231 Echocardiography Clinical 11

ECHO 223: CARDIAC ELECTROPHYSIOLOGY ***45/0/0/3***

The focus of this course is cardiac arrhythmias. Students learn to recognize both atrial and ventricular arrhythmias. Student will also learn the electrophysiology relationship of coronary artery disease. ***Prerequisite: BIO 110 Anatomy & Physiology***

EKG 100 : EKG I ***60/0/0/3***

Students of this course learn the basic principles of cardiac dysrhythmias and interpretation techniques. Data is presented in the form of lectures.

Prerequisite: BIO 110 Anatomy & Physiology

EKG 101: EKG LAB ***0/60/0/2***

This is a practical EKG course. Students will demonstrate technical accuracy in operational problem solving, quality skills, and perform twelve leads electrocardiography procedures. Students primarily learn intermediate to advanced interpretation of EKG, be able to integrate pathophysiological principles and make assessment findings to generate data necessary for physicians to formulate an impression and understand treatment plans for cardiac patients. Additionally, students will learn procedures necessary for maintenance of equipment and exam area, and perform twelve lead electrocardiograms. Data is presented in the form of lectures, video presentations. **Prerequisite: EKG I**

EKG 102: CARDIAC MONITORING ***15/30/0/2***

This is an advanced level cardiac electrophysiology course, in which students learn skills and knowledge necessary to reach competence in monitoring cardiac patients. Upon completion of this course, students will demonstrate monitor hook-up techniques, patient preparation techniques. Students will also perform ambulatory monitor scans, recall cardiac arrhythmia interpretation, quality control and problem solving. Lectures and laboratory practicum will stress the performance of cardiac ambulatory monitors, and analysis of recorded data.

Emphasis is on technical accuracy in operation of equipment, interpretation of cardiac arrhythmia, problem solving, and quality control.

Prerequisite: EKG II

ENG 110: COMMUNICATION ***45/0/0/3***

The students in this course will learn effective, clear, concise and accurate means of healthcare communication. Emphasis is placed on the fundamentals of effective communication with relation to oral and written communication basics, as related to the medical profession.

Prerequisite: None

ENG 111: ENGLISH COMPOSITION ***30/0/0/2***

Students primarily learn the principles of composition with emphasis on the mechanics of writing, the types of discourse, research and Documentation. *Prerequisite: None*

ENG 101: EMPLOYMENT SKILLS ***8/0/0/0***

Students will learn the key skills necessary to find and explore job leads, prepare a resume and cover letter, interview and follow up on an interview and become a valued employee, and advance within their chosen career. Additionally, students will demonstrate the ability to write a resume and cover letter, recall interviewing techniques and demonstrate attitudes necessary to get and keep a job. This course is devoted to preparing students for their careers, and is presented through student services.

Prerequisite: None

MATH 110: MATHEMATICS 35/0/0/2.0

In this course, concepts from arithmetic, elementary algebra, geometry and scientific notation are reviewed, extended and applied to problems from areas of technology, including the allied health profession. Students learn to solve mathematical problems, recall current applications of variables, reciprocals, metric conversion, logarithms, exponents, proportion, decimals, distance equations, linear equation and inequalities, and binary numbers.

Prerequisite: None

MATH 215: COLLEGE ALGEBRA 45/0/0/3.0

The course covers linear, quadratic, and other algebraic equations, real number system, operations on polynomials and radicals, the Pythagorean theorem and other geometric topics; developing mathematical models which result in these equations and identities; graphing of lines, circles exponential and polynomial functions; and general ideas and properties of functions.

Prerequisite: None

MS 102 SONOGRAPHIC CROSS-SECTIONAL ANATOMY 15/30/0/2.0

This course will include knowledge of cross-sectional human anatomy as visualized using diagnostic ultrasound. The student will become familiar with the ultrasonic appearance of disease-free organs, tissues and vessels of the human body. Normal and abnormal anatomical variants will also be addressed. Coursework will include recognition of abnormal pathological findings as diagnosed by ultrasound. Emphasis will be placed on teaching the students to identify sonographically normal cross-sectional anatomy based on echogenicity, location and size relative to adjacent structures.

Prerequisite: BIO 110 Anatomy & Physiology

MS 103 ABDOMINAL SONOGRAPHY 30/30/0/3.0

This course will focus on applying ultrasound as a diagnostic tool for evaluating the abdomen and all related structures. Coursework will include techniques for proper identification and representation of the normal and abnormal anatomical structures. Emphasis will be placed on the liver, gallbladder and biliary system, pancreas, spleen, urinary system, adrenal glands, GI system, peritoneum and retroperitoneum, male pelvis and non-cardiac chest. Lecture and laboratory experience will coincide appropriately to facilitate a simultaneous understanding of didactic and laboratory application.

Prerequisite: MS 102 Sonographic Cross-Sectional Anatomy

MS 104 SMALL PARTS SONOGRAPHY 15/15/0/1.5

This course will cover the anatomy, physiology, pathology and pathophysiology of the neck and thyroid, breast, scrotum, extremities and superficial structures. Coursework will familiarize the student with scanning protocols as well as normal and abnormal visualization using sonography. Techniques will include methods of applying the highest resolution and color flow Doppler. Discussion will include pertinent clinical history and symptoms. Correlation with clinical laboratory tests and other diagnostic procedures will also be covered.

Prerequisite: MS 102 Sonographic Cross-Sectional Anatomy

MS 105: OBSTETRICAL SONOGRAPHY 30/30/ 0/3.0

This course will familiarize the student with obstetrical imaging as visualized with ultrasound. Coursework will include the physiology of pregnancy, embryology, spermatogenesis, oogenesis, and the development of the fetus. Fetal development will include the three trimesters of pregnancy. Lecture and hands-on demonstrations will coincide appropriately to facilitate a simultaneous understanding of didactic and practical application. **Prerequisite: MS 102 Sonographic Cross-Sectional Anatomy**

MS 106: FETAL & NEONATAL ANOMALIES 30/0/0/2.0

This course will introduce the student to fetal abnormalities visualized in the first, second and third trimesters. Emphasis will be placed on identification of the pathological processes associated with the clinical history, sonographic appearance and results of other diagnostic procedures. Major fetal and neonatal anomalies will be covered and identified as visualized on sonography. This course will also include the normal and abnormal anatomy of the neonatal brain and ultrasound imaging techniques. Sonography of the newborn will include detailed information on neurosonography, pyloric stenosis, neonatal hips, kidneys and adrenal glands.

Prerequisite: MS 102 Sonographic Cross-Sectional Anatomy

MS 107: PELVIC SONOGRAPHY 30/30/ 0/3.0

This course introduces and relates the knowledge of gynecology anatomy, pathology and diagnostic sonography. This course will focus on applying ultrasound as a diagnostic tool for evaluating the pelvis and adjacent structures. The student will become accustomed to the sonographic procedures used to properly image the female pelvis. Coursework will include demonstrations and discussion on the proper scanning techniques, patient preparations and positioning utilized to obtain optimum diagnostic images. Lecture and classroom demonstrations will coincide appropriately to facilitate a simultaneous understanding of didactic and hands-on experience.

Prerequisite: MS 102 Sonographic Cross-Sectional Anatomy

MS 110: SPECIAL PROJECTS OR STUDIES IN OB/GYN ULTRASOUND 70/0/ 0/4.5

Students are provided with a list of topics to independently research information about the topic utilizing the internet, and libraries. Student must write reports ranging from seven hundred and fifty to fifteen hundred words about the topics. Students must duplicate these reports keeping one for their file and presenting the others in a binder or on a disk or CD to be graded. These reports become

a permanent part of the student's records.

Prerequisite: MS 102 Sonographic Cross-Sectional Anatomy

MS 200 : CLINICAL MEDICAL SONOGRAPHY I 0/0/180/4.0

This course focuses on practical general training and experience in the workplace. The schools' faculty and employer develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the students' general and technical course of study. Students will perform general ultrasound procedures. They will recall general ultrasound Scanning techniques. They will also demonstrate the ability to setup, operate, and maintain general ultrasound equipment. Additionally, students will process acquired ultrasonic data for interpretation by physician, and demonstrate a high level of professionalism in the workplace. This course will require students to purchase medical liability insurance.

Prerequisite: MS 105 Obstetrical Sonography

MS 201: CLINICAL MEDICAL SONOGRAPHY III 0/0/562/12.0

The school's faculty and employers develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the students' general and technical course of study. Students will observe and perform general ultrasound procedures. They will recall general ultrasound scanning techniques. They will also demonstrate the ability to setup, operate, and maintain general ultrasound equipment. Additionally, students will process acquired ultrasonic data for interpretation by physician, and demonstrate a high level of professionalism in the workplace. This course focuses on practical general training and experience in the workplace. This course will require students to purchase medical liability insurance.

Prerequisite: MS 104 Small Parts Sonography

MS 202: CLINICAL MEDICAL SONOGRAPHY II 0/0/338/7.5

This course allows students to rotate through a second clinic after completing either MS 200 or MS 201 and focuses on practical general training and experience in the workplace. This second site rotation will give the student a wider scope of different worksite protocols and procedures for performing general ultrasound procedures. The employer dictates the students' day to day activities under the guidelines of the syllabus provided by the school. The students have no claim against the worksite for any employment benefits, and at no time will represent themselves as an employee or agent of the worksite. This course requires students to purchase medical liability insurance, and to wear nametags identifying their status. They will recall general ultrasound scanning techniques. They will also demonstrate the ability to setup, operate, and maintain general ultrasound equipment. Additionally, students will process acquired ultrasonic data for interpretation by physician, and demonstrate a high level of professionalism in the workplace. This course will require students to purchase medical liability insurance.

Prerequisite: MS 200 Clinical Medical Sonography I

MT 102 INSTRUMENTATION 15/15/0/1.5

This course is the study of cardiac monitoring equipment manipulative. Students obtain the knowledge and skills to reach required competencies in the operations and maintenance of equipment used by monitor technicians in the performance of cardiac diagnostic tests. The students will demonstrate the ability to set up and operate ambulatory recorders and scanners; educate and prepare the patient for procedures. Students will recall operations of ambulatory recorders, and scanners, and list troubleshooting methods. The course is designed to provide lecture and laboratory practicum necessary to develop cognitive and skills in the clinical operations of specific cardiac monitoring instrumentation.

Prerequisite: None

MT 211 MEDICO-LEGAL ISSUES AND PATIENT CARE 39/0/0/2.5

Students of this course learn the importance of efficient patient care, and the professional ethics principles, laws, and regulations governing patients and medical professionals.

Prerequisite: None

MT 212 MEDICAL TERMINOLOGY 15/0/0/1.0

This course is a required course for all students. Students are introduced to the structure of medical words including prefixes, suffixes and roots. Abbreviations used by medical professionals are included in this course. Students learn approximately three hundred new words.

Prerequisite: None

PC 100 PATIENT CARE 15/0/0/1.0

Students taking this course must demonstrate strategies for transfer of patients, and transportation techniques, medical records creation, and maintenance, patient interviewing, technical accuracy in operational dealing with normal and abnormal patient behavior, medical, and surgical asepsis including universal precaution procedure, techniques for obtaining patient's systemic blood pressure, pulse and respiration. Students will also demonstrate body mechanics and management of patients. **Prerequisite: None**

PH 101: PHARMACOLOGY 45/0/0/3.0

This course introduces the basic principles of drug classification, pharmacokinetics, delivery systems, drug interactions and dosage. Drugs administered during cardiac procedures will be the focus of the course. Students will recall medico-legal aspects, documentation, pharmacodynamics, pharmacokinetics and mathematical conversions, calculation of drug problems, regulations relating to prescription medications and medico-legal responsibilities of technicians **Prerequisite: BIO 110 Anatomy & Physiology**

PHY 210: APPLIED ULTRASOUND PHYSICS AND INSTRUMENTATION 60 /30 /0/5.0

This course is the study of physical principles of ultrasound, application of acoustic physics and specific diagnostic ultrasound equipment. Students will demonstrate the core skills necessary to reach required competencies in the operations and maintenance of equipment used by technicians in the performance of ultrasound diagnostic procedures. The student will recall the interaction of ultrasound tissue, heat energy, velocity, image generation, wave concepts, pulse duration, reflection, refraction, amplitude, intensity, absorption, power, nyquist-crition, analog and digital conversion and ultrasound equipment image and data generation, common terminology for instrument controls, the basic pulse echo systems including display systems scan converters principles, artifact recognition, techniques for assurance procedures, bioeffects, and safety performance issues. Additionally, students will identify transducer types and demonstrate the ability to apply ultrasound physics to instrumentation. The course provides lecture and laboratory practicum necessary to develop cognitive and manipulative skills in the clinical operations of specific diagnostic instruments. **Prerequisite: None**

VAS 200: INTRODUCTION TO VASCULAR ULTRASOUND 15/ 15/ 0/1.5

This introductory vascular ultrasound course reviews the anatomy and pathophysiology of cerebrovascular and peripheral vein and arteries. The course will cover basic vascular principles and clinical applications of vascular ultrasound, to include indications, and examination techniques. Topics covered include: hemodynamic principles, vascular Doppler signal processing and spectral analysis, normal and abnormal appearances of peripheral vasculature, plethysmography. **Prerequisite: BIO 110 Anatomy & Physiology**

VAS 201: VASCULAR ULTRASOUND LAB PRACTICUM 0/ 60/ 0/2.0

A practicum course designed to ensure competency in the basic skills required in the clinical practice of vascular technology. Students acquire skills in the performance of vascular Doppler techniques, indirect blood flow measurements, ultrasound imaging and hemodynamics of the vascular system. A minimum of 100 cases will be observed under the supervision of an experienced technologist.

Co-requisite: VAS 200 Introduction to Vascular Ultrasound

VAS 217: CEREBROVASCULAR SONOGRAPHY 60/0/0 /4

This course provides an in-depth study of cerebrovascular diseases and ultrasonic evaluation. The student will learn how to perform a complete B-mode and Doppler ultrasonic examination using all current industry standards. Transcranial Doppler techniques will also be presented. Pathological development and pathophysiology will be described. This course will also review techniques for patient assessment, obtaining patient histories, evaluating and correlating patient symptoms with diagnostic findings. Surgical and non-surgical corrective techniques will be discussed. The student will be introduced to correlating ultrasound test results with angiography, computed tomography, nuclear medicine vascular procedures and magnetic resonance imaging. **Prerequisite: BIO 110 Anatomy & Physiology**

VAS 211: VENOUS SONOGRAPHY 60/0 /0/4

During this course students will study the disturbance of normal mechanical, physical, and biochemical functions of the vascular systems. This course provides the student with an in-depth study of the evaluation of peripheral venous disease using duplex ultrasound and plethysmographic techniques. The student will learn to evaluate for venous thrombosis and insufficiency. Superficial venous mapping will be demonstrated. The student will review techniques or evaluating the presence of venous disease. The student will learn pathological mechanism and risk factors for venous disease. **Prerequisite: BIO 110 Anatomy & Physiology.**

VAS 214: ABDOMINAL VASCULAR SONOGRAPHY 30 /0/0/2

This course teaches students the fundamentals of duplex exams of the renal, mesenteric, aorta and iliac arteries as well as the inferior vena cava, iliac, hepatic and portal veins. The student will identify risk factors and describe pathogenic mechanisms of these vessels. Surgical and interventional techniques will be discussed. Post interventional ultrasonic evaluation of these procedures will also be discussed and demonstrated. Correlation with other diagnostic procedures will be demonstrated. **Prerequisite: BIO 110 Anatomy & Physiology**

VAS 216: ARTERIAL SONOGRAPHY 53 /0 /0 /3.5

Provides an in-depth study of peripheral arterial disease and non-invasive evaluation of it. The student will learn how to perform B-mode and Doppler evaluation of the upper and lower extremities. The student will also learn how to perform pulsed volume recording, segmental blood pressures and plethysmography. Pathological and pathophysiologic states will be described. The course will review pertinent techniques for patient assessment, obtaining patient histories, evaluating and correlating patient symptoms with diagnostic findings. The student will be introduced to correlating information with other diagnostic procedures. **Prerequisite: BIO 110 Anatomy & Physiology**

VAS 213 REGISTRY REVIEW 30 /0 /0 /2

This is a comprehensive review course to prepare students for the registry exams. Participants learn mathematical, and physics formulas, and theories, ultrasound equipment components, and functions, hemodynamics and physiology. This review course material will assist students with preparation for the Registry exams. ***Prerequisite: VAS 318: Vascular Pathology***

VAS 215 VASCULAR LAB CLINICAL ROTATION 1 0/0 /180 /4

This course is a clinical rotation which takes place in a clinical setting. Students will learn workplace skills under the supervision of an experienced Sonographer. The student will observe and or perform all types of noninvasive studies in the peripheral vascular laboratory.

Prerequisite: BIO 110 Anatomy & Physiology

Students will be expected to achieve and demonstrate competency in the performance of the duplex ultrasound examination of the Carotid, Vertebral, and Subclavian arteries, as well as peripheral arteries and veins. Clinical sites are typically located within a 60 miles radius of the college. ***Prerequisite: VAS 211Venous Sonography***

VAS 219: VASCULAR LAB CLINICAL ROTATION 11 0/ 0 /360 /8

This course is the continuation of Vascular Lab Clinical Rotation 1 which takes place in a clinical setting. Students will enhance workplace skills and knowledge learned in Vascular Lab clinical rotation I under the supervision of an experienced Sonographer. The students learn through observation and or performing various types of peripheral vascular laboratory studies. Students will be expected to achieve and demonstrate

competency in the performance of the duplex ultrasound examination of the Carotid, Vertebral, and Subclavian arteries, as well as peripheral arteries and veins. Clinical sites are typically located within a 60 miles radius of the college.

Prerequisite: VAS 218 Vascular Lab Clinical Rotation 1

VAS 317: VASCULAR PATHOLOGY 1 ***45/0/0/3***

This course covers pathologies of vascular systems including diseases and mechanisms of the cerebral vascular system and upper extremities. Risk factors, signs, and symptoms, image and flow abnormalities are stressed. Techniques to maneuver and document these pathologies. Students will learn how to recognize and report abnormalities, and also learn how to write accurate preliminary reports.

Prerequisite: BIO 11 Anatomy &Physiology

VAS 318: VASCULAR PATHOLOGY 11 ***45/0/0/3***

This course is a continuation of Vas 317 and covers pathologies of lower vascular system including disease mechanisms, risk factors, signs, and symptoms, images and flow abnormalities. Disease recognition of both the venous and arterial systems and maneuver used to document the abnormalities are discussed in detail. Students will learn how to recognize and report abnormalities, and also learn how to write accurate preliminary reports. **Prerequisite: Vas 317 Vascular Pathology 1**

PATHOPHYSIOLOGY ***60/0 /0 /4***

Students will learn to analyze the relationship between normal electromechanical physiology and the cardiovascular system alterations produced by disease processes, describing the etiology, developmental considerations, pathogenesis, and clinical manifestations of specific disease processes. ***Prerequisite: BIO 110 Anatomy & Physiology***

VAS 212: MEDICAL AND SONOGRAPHIC TERMINOLOGY 15 /0 /0 /1

This course is a medical terminology course with emphasis on sonographic and related vascular terminology. Students are introduced to the structure of words including prefixes, suffixes and roots and abbreviations. ***Prerequisite: None***

PHY 216: GENERAL PHYSICS 45/0/0 /3

This is a general physics course centered around physics used in biomed and in particular ultrasound physics. Emphasis is placed on motion, sound, period, power, intensity, magnitude, friction, acceleration sound waves, reflection, refraction, speed, mass, frequency, cycle, pulse, density, fluid, gravity, pressure, and force. ***Prerequisite: None***

ENG 110 COMMUNICATION 45/0/0/3

The students in this course will learn effective, clear, concise and accurate means of healthcare communication. Emphasis is placed on the fundamentals of effective communication with relation to verbal non verbal and written communication as related to the medical profession. Principles of telecommunications, charting and referral evaluation will also be covered. ***Prerequisite: None***

MATH 220: COLLEGE ALGEBRA 45/0/0/3

In this course, concepts from arithmetic, elementary algebra, geometry and scientific notation are reviewed extended and applied to problems from areas of technology, including the allied health profession. Students learn to solve mathematical problems, recall current applications of variables, reciprocals, metric conversion, logarithms, exponents, proportion, decimals, distance equations, linear equation and inequalities, and binary numbers. ***Prerequisite: None***

PC 200: SONOGRAPHY MEDICO LEGAL PRINCIPLES & PATIENT CARE 45/0/0/3

Students taking this course must define the role of the Sonographer as a member of the allied health care profession. Students are prepared to take their place as a Sonographer in a clinical environment. Learning include scope of practice, legislative and regulatory issues, ethical and legal issues, patient safety and body mechanics, transportation strategies, clinical assessment, medical records creation, and maintenance, patient care techniques including medical, and surgical asepsis, universal precaution procedure, and vital signs assessment. Students will also demonstrate professionalism, leadership, body mechanics and management of patients. ***Prerequisite: None***

PHY 210: SONOGRAPHIC PHYSICS AND INSTRUMENTATION 45/0 /0 /3

This course is the study of physical principles of ultrasound, application of acoustic physics and specific diagnostic ultrasound equipment. The course provides lecture and laboratory practicum necessary to develop cognitive and manipulative skills in the clinical operations of specific diagnostic instruments. ***Prerequisite: PHY 216: General Physics***

VAS 214: VASCULAR ANATOMY, PHYSIOLOGY & HEMODYNAMICS 45/0/0/3

This course is an in-depth study of the anatomy and physiology of the vascular system in normal and abnormal patients. The course will concentrate on the structure and hemodynamic of the vascular system. ***Prerequisite: None***

PSYC 110: PHYSIOLOGICAL PSYCHOLOGY 45 Lec Hrs/0 Lab Hrs/0 Clinical Hrs/3 Sem. Cr. Hrs

Students taking this course will study the molecular aspects of neuroscience as it relates to the human brain. The brain's normal and abnormal functions as they affect human behavior and experiences are emphasized. Neuroanatomy, neurophysiology, neurochemistry influence on thought, language, learning, and motivation will also be covered in this course. *Prerequisite: None*

VAS 220: PRINCIPLES OF VASCULAR SONOGRAPHY 1 60/0/0 /4

This course is taken in conjunction with VAS 221 Principles of Vascular Sonography 1 lab and covers in-depth information of the anatomy and pathophysiology of the peripheral arteries and veins, and cerebral vascular circulation. The course also provides information on the scanning techniques used in VAS 221 course. Students learn the theory associated with all current industry standards in interpreting and writing reports of B-mode and Doppler ultrasonic examination. ***Pre requisites: VAS 214 Vascular Anatomy, Physiology & Hemodynamics***

VAS 221: PRINCIPLES OF VASCULAR SONOGRAPHY 1 LAB ***0 /150/0/5***

A practicum course designed to ensure competency skills required in the clinical practice of vascular sonography. Students acquire skills in the performance of B-mode and Doppler ultrasound examination techniques, including indirect blood flow measurements, ultrasound imaging and hemodynamics of various sector of the vascular system. Students perform scans under the supervision of a faculty member.

Prerequisite: VAS 220: Principles of Vascular Sonography 1

VAS 222 PRINCIPLES OF VASCULAR SONOGRAPHY 11 ***60/0/0/4***

This is an advanced course taught in conjunction with the Principles of Vascular Sonography 11 Lab. The course covers information on standards for the evaluation of PVD including evaluation of mesenteric and renal arteries, and AAA. PPG toe pressures, TBI, Trans Cranial Doppler imaging, Penile Doppler imaging, venous reflux studies, standard values, limb segmental pressure measurements, revascularization procedures, and ultrasound guided vascular procedures. All aspects of current principles are covered.

Prerequisite: VAS 220 Principles of Vascular Sonography 1

VAS 223: PRINCIPLES OF VASCULAR SONOGRAPHY 11 LAB ***0/150/0/ 5***

A continuation of Principles of vascular sonography 1 Lab which is a practicum course designed to ensure competency skills required in the clinical practice of vascular sonography. Students acquire skills in the performance of B-mode and Doppler ultrasound examination techniques, including indirect blood flow measurements, ultrasound imaging and hemodynamics of various sector of the vascular system including but not limited to AAA, mesenteric, celiac and renal artery. PPG toe pressures, TBI, Trans Cranial Doppler imaging, Penile Doppler imaging, venous reflux studies, standard values, limb segmental pressure measurements, revascularization procedures, and ultrasound guided vascular procedures. Cases will be performed under the supervision of a faculty member.

Prerequisite: VAS 221: Principles of Vascular Sonography 1 Lab

VAS 318: VASCULAR PATHOLOGY ***60/0/0/4***

This course covers all pathologies of vascular system. Vascular disease mechanisms, risk factors, signs, symptoms, image and flow abnormalities are stressed. Techniques and maneuvers are discussed in details. Students will learn how to recognize and report abnormalities and also learn how to write accurate and concise preliminary reports. ***Prerequisite: BIO 110 Anatomy & Physiology***

VAS 219 VASCULAR CLINICAL ROTATION 1 ***0 /0/270/6***

This course takes place in a clinical setting. Students will learn workplace skills under the supervision of an experienced Sonographer. The student will learn the daily functions of the lab and observe and or perform all types of noninvasive studies in the peripheral vascular laboratory.

Prerequisite: VAS 216 Principles of Vascular Sonography 1

VAS 225 VASCULAR CLINICAL ROTATION 11 ***0 /0 /315/7***

This course is a continuation of Vascular Clinical Rotation1. Students learn workplace skills under the supervision of an experienced Sonographer following the guideline of the syllabus provided by the school. Students will document cases observed and or performed throughout the rotation. The course provides an opportunity for the students to engage in actual performance of duties in the clinical setting.

Prerequisite: VAS 219 Vascular Clinical Rotation 1

VAS 226 VASCULAR CLINICAL ROTATION 111 ***0/0/315/7***

This course is a continuation of Vascular Clinical Rotation11, and the last of all clinical rotations. Students learn workplace skills under the supervision of an experienced Sonographer following the guideline of the syllabus provided by the school. Students will document cases observed and or performed throughout the rotation. Students will be expected to demonstrate competency in the performance of all vascular ultrasound and physiological examinations. ***Prerequisite: VAS 225 Vascular Clinical Rotation 11***

SEMINARS

National Registry Review Seminar

Outline: *Participants learn mathematical, and physics formulas, and theories, ultrasound equipment components, and functions, cardiac hemodynamics and physiology. Additionally, students will learn to identify various cardiac pathologies. This review course material will assist students with preparation for the Cardiac Sonography Registry exams.*

Admissions Requirements: *Allied Health Professionals with Knowledge of Anatomy and Physiology*

Course Length: *40 Clock Hours delivered twice a week for 5 Weeks*

Course Objective: *Be familiar with the format of the National Board Exam.*

- *Recall Mathematical and physics formulas and theories. Recall General and Cardiac Anatomy and Physiology Recall Patient Management/Clinical Medicine*
- *Recall Therapeutic Measures*
- *Recall Patient Care and Assessment Recall Cardiac Procedures and Protocols Recall other Cardiac Modalities*
- *Recall Cardiac Doppler and Color Flow Echocardiography Identify Cardiac Disease states.*
- *Recall Ultrasound Physics and Instrumentation. Recall Cardiac Hemodynamics and Physiology.*

Recall Advanced Techniques in Echocardiography

Cost: *$1000.00. Free to all graduates and current students.*

Textbooks: *$200 purchased separately*

VT 201: **Lab Practicum and Proficiency Testing Seminar**

Outline: *Participants acquire the techniques necessary to perform basic cerebral vascular ultrasound images. The course is designed to provide laboratory practicum necessary to develop cognitive and manipulative skills in the clinical operation of specified cardiovascular instrumentation, and in the performance of diagnostic arterial and venous vascular testing of the upper and lower extremities.*

Admissions: *Allied Health Professionals and Nurses.*
Requirements: *Knowledge of Vascular Anatomy and Physiology*

Course Length: ***40 Clock Hours delivered twice a week for 5 Weeks***

Course Objective: *Demonstrate basic scan techniques for duplex ultrasound of the Carotid and vertebral arteries. Demonstrate basic scan techniques for duplex ultrasound of the Lower extremities. Vascular Technology, An Illustrated Review. Claudia Rumwell, RN.RVT. FSVT Michaelene McPharlin, RN., RVT, FSVT*

Cost: *$1000.00*
Books: *$79.00 (Purchased Separately)*

Vascular Ultrasound Seminar

Outline: *This course of instruction in specialize theories of noninvasive arterial and venous testing of the human vascular system. Students will learn arterial and venous vascular ultrasound scanning, spectral analysis, and the interpretation of scanning and non-scanning modalities for vascular testing. Students will recall protocols for arterial and venous duplex scanning including the cerebral vascular, upper and lower extremity vasculature.*

Admission: *Allied Health Professionals*

Requirements: *Knowledge of Vascular Anatomy and Physiology*

Course Length: ***40 Clock Hours delivered twice a week for 5 Weeks***

Course Objective: *Recall Arteriosclerosis, plaque formation, etiology of disease (Stenosis, thrombosis and embolism).*
Recall aneurysms, pseudo-aneurysms, dissections, infection and collections, vascular trauma, vasospasm. Recall congenital anomalies (e.g., arterio-venous fistula, anomalous vessels).
Recall functional consequences and clinical presentations in lower limb.
Recall Carotid and vertebral artery arterial disease, stroke, transient ischemic attacks, bruits. Recall venous ultrasound protocol.
Recall deep venous thrombosis (lower and upper limb).
Recall deep and superficial venous incompetence and role of perforators, varicose veins, and multiple venous drainage. Phlebothrombosis.
Recall Carotid aneurysm, tortuosities. Benign and malignant neoplasm's (e.g., carotid body tumor, haemangioma). Takayasu's arthritis.
Recall scan protocols for duplex ultrasound of the Carotid and Cerebral arteries. Recall scan protocols for duplex ultrasound of the Lower extremities.

Book: *Techniques in Noninvasive Vascular Diagnosis: An Encyclopedia of Vascular Testing; Robert J. Daigle, BA, RVT, FSVU 4th Edit. Summers Publishing.*

Cost: *$1000.00*

Books: *$110.00 (Purchased Separately)*

Repeating Courses

A student who fails a course, has an incomplete grade, or has surpassed 10% absences of a course will be required to repeat the course. If student is required to repeat a course the new grade will replace the original grade for the

purpose of the calculation of the cumulative grade point average. Students must repeat the course at the first available opportunity. Students will be charged the full cost of repeating. Charges are subjected to inclusion of tuition, insurance supplies, books and related fees. Students are responsible for all related costs.

Americans With Disabilities Act (ADA)

In compliance with Section 504 of the Rehabilitation Act of 1973, Americans with Disabilities Act of 1990, Section 508 of the Rehabilitation Act of 2000, the ADA of 2009, the Houston International College Cardiotech Ultrasound School (HICCUS) is committed to ensuring services and facility that are accessible to and provide equal opportunities for education to all students by permitting: Service Animal "Dog" that is individually trained to do work or perform tasks for an individual with a disability. Providing task(s) performed by the dog is directly related to the person's disability. "Comfort," "therapy," or "emotional support" animals do not meet the definition of a service animal. Individuals using service animals must maintain control of the animal through voice, signal, or other effective controls; Mobility Devices including walkers, canes, crutches or braces, manually-operated and power wheelchairs in all areas where customers are allowed to go and Communication including taking the steps necessaryto communicate effectively with individuals with vision, hearing and speech disabilities. Effort is taken to offer reasonable accommodation to disabled individuals to have the benefit of equal opportunities.

GRADING SYSTEM

GRADE	*GRADE POINT*	*PERCENTAGE*	*COMMENT*
A	*4.0*	*90-100*	*Outstanding Performance*
B	*3.0*	*80-89*	*Above Average Performance*
C	*2.0*	*75-79*	*Average Performance*
D	*1.0*	*70-74*	*Below Average Performance*
F	*0.0*	*0-69*	*Failure/Unsatisfactory*
I	*Incomplete*		*Incomplete*
W	*Withdrew*		*Withdrew without completion*
T	*Transfer Credit*		*Transfer from another Institution*

Students' progress is evaluated through a series of quizzes performed bi-weekly a midterm exam at 8 weeks and one final exam which covers all the material learned throughout the semester. Final grade is a combination of classroom, and homework assignments, quizzes, laboratory work, midterm exam at 8 weeks and one final exam. Students attending the summer semester are evaluated through a series of quizzes performed bi-weekly a midterm exam at 7 weeks and one final exam at 13 weeks. Earned grade points are calculated for each course by multiplying the grade point value for the grade received times the credit hour value of the course. For example, a 4.0 credit course with a grade of B would earn 12.0 grade points [credit value of course (4) times grade point value of B (3)]. The Cumulative Grade Point Average (CGPA) is calculated by dividing the total earned grade points by the total attempted credits. ***Transfer credits, and incomplete grades have no effect on satisfactory progress.***

Distribution of Grades

Student grades will be distributed in the following manner:

Class assignments/Quizzes	25%
Outside classroom assignments	25%
Final exams	50%

SATISFACTORY ACADEMIC PROGRESS POLICY

Federal Financial Aid regulations (34 CFR 668.34) require that the Houston International College Cardiotech Ultrasound School establishes, publishes and applies reasonable standards for measuring students' satisfactory academic progress (SAP) in their educational programs. Standards require a student to move toward the completion of a degree or certificate within an eligible program when receiving financial aid. Specific requirements for academic progress for financial aid recipients are applied differently than college Academic Standards, Probation, and Suspension. Federal regulations state that Satisfactory Academic Progress standards must include a review of all periods of enrollment, regardless of whether or not aid was received. The student must meet all the minimum standards in order to receive financial aid.

Elements of Financial Aid Satisfactory Academic Progress:
Qualitative component

- *Grade Point Average GPA)*

Quantitative components

- *Pace of progression (earned credits divided by attempted credits)*
- *Maximum timeframe (maximum number of attempted credits)*

Specifically, for Houston International College Cardiotech Ultrasound School, the elements required for a student to be considered in compliance are:

- ***Grade Point Average (GPA) Requirement***
  Students must maintain a 2.0 cumulative grade point average on all hours attempted at Houston International College Cardiotech Ultrasound School.
- *Please refer to the grading system in the Houston International College Cardiotech Ultrasound School catalog for information on how quality points are assigned and how GPA is calculated.*
- ***Pace of Completion Requirement***

Students must maintain a cumulative pace of 66.67% which is 66.67% of all hours attempted at Houston International College Cardiotech Ultrasound School and credits accepted from other institutions must be passed to maintain SAP.

Maximum Time Frame for Financial Aid Purposes
Undergraduate
Full time student (12+ semester credit hours)15 semesters credits enrollment

Maximum Time Frame
Students receiving financial aid must complete their program of study within a reasonable time frame. The maximum time frame established for Houston International College Cardiotech Ultrasound School as an undergraduate is 109 credit hours (including all transfer credit hours). For those students seeking a second undergraduate degree, the student must not have attempted over 109 credit hours prior to obtaining first degree.

Whether or not a student has met their maximum term limit, students are not eligible for additional financial aid funds beyond completion of their degree requirements.

***Impact of incompletes, withdrawals, course repetitions, and transfer credits on qualitative and quantitative SAP components: Withdrawals ("W") and Incompletes ("I")** will be counted as failed attempts for the quantitative SAP component. The qualitative measure is not affected by "W" grades.*

***Course repetitions**: All course attempts will be counted in the quantitative component, but credit for repeated courses can only be earned once. Only the most recent grade will be counted in the qualitative SAP component.*

***Treatment of transfer credits:** All accepted transfer hours are counted as both attempted and earned for the quantitative SAP component. The qualitative measure is not affected by transfer and/or exam credits.*

Evaluation Frequency
Academic record will be evaluated yearly, generally at the end of the summer semester, or at the time student reapply for financial aid. If a student has been placed on financial aid probation or an academic plan student record will be reviewed after grades are posted at the end of each semester of enrollment.

All periods of enrollment is considered when evaluating SAP, regardless of whether or not financial aid was received each semester.

SAP may be re-evaluated more frequently if the resolution of an "I" grade will allow a student to re-establish SAP.

Consequences of not meeting Satisfactory Academic Progress (SAP):
Students failing to meet SAP Standards will be notified via email.

***Financial Aid Probation** – This status is assigned to a student who has failed SAP and has successfully appealed, and thus had aid eligibility reinstated for one term. At the end of the probation term, the student must regain SAP or they will be suspended.*

***Academic Plan** – This status is assigned to a student who has failed SAP and has successfully appealed, and thus had aid eligibility reinstated for up to three terms. The student is reviewed term by term to determine if they are meeting the conditions of their plan or if they have regained SAP.*

***Financial Aid Suspension** – This status is assigned when a student on Financial Aid Probation or Academic Plan fails to meet the conditions of his or her Probation or Academic Plan (see definition above). All financial aid is terminated immediately upon determination of Financial Aid Suspension status. The student will remain ineligible until such time that he/she is able to meet the cumulative financial aid SAP standards. Students on financial aid suspension will be responsible for payment of their own tuition and fees.*

***Maximum Time Frame Suspension** – If a student fails to meet the Maximum Time Frame standards, he or she will be placed on Maximum Time Frame Suspension and will immediately lose financial aid eligibility.*

Appeal of Financial Aid Suspension
A student who is placed on Financial Aid Suspension due to circumstances listed below may appeal for reinstatement of financial aid eligibility. The SAP appeal must address why the student failed SAP, and what has changed in the student's situation that will allow the student to meet SAP at the next evaluation. Students may appeal their Financial Aid Suspension in writing to the Financial Aid. In addition student must submit documentation to support circumstances, which may include, but are not limited to medical bills, obituaries, grade transcripts etc.

Appeals may be made based on:

- *Serious injury or illness of the student or a member of the immediate family.*
- *Immediate family death.*
- *Improvement sufficient to meet required standards in hours and/or GPA while attending a subsequent semester at student's own expense.*

A student whose appeal is granted will be awarded financial aid on a either on a probationary basis or on an academic plan. Academic progress will be reviewed at the end of the semester to determine if progress has been made. If student is meeting SAP, they will be placed into good standing.

Failure to meet SAP at the end of the probationary period will result in suspension. Failure to meet the conditions of an academic plan will result in permanent suspension of financial aid eligibility until such time that student is in compliance to receive financial aid. A student on Financial Aid Suspension whose appeal is denied may attend the Houston International College Cardiotech Ultrasound School at his/her own expense, if eligible.

A student is permitted to submit a maximum of two appeals within their academic career. After the second appeal no further appeals will be considered. A student on Financial Aid Suspension who is no longer eligible to appeal may attend the Houston International College Cardiotech Ultrasound School at his/her own expense, if eligible.

Special circumstances will be reviewed on a case-by-case basis. (Students on Financial Aid Suspension who have not attended college for at least one calendar year may appeal based on change of circumstances).

Failure to properly manage one's time and/or failure to seek recommended academic tutoring do not constitute special circumstances and cannot be used as the basis for a SAP appeal.

***RE-ESTABLISHING SAP**:*
A student who is placed on Financial Aid Suspension (see definition below) and does not appeal, or whose appeal is denied, may re- establish SAP by regaining the required qualitative and quantitative measures. SAP status will be measured on the usual schedule (see "Frequency of Evaluation" section above) for students on Financial Aid Suspension, and students who re-establish SAP will be notified by the Financial Aid Office.

The following definitions apply to terms used in this HICCUS policy.

***ACADEMIC PLAN:** A plan that, if followed, will ensure that the student is able to meet HICCUS's satisfactory academic progress standards by a specific point in time.*

***APPEAL:** A process by which a student who is not meeting the satisfactory academic progress standards petitions HICCUS Financial Aid for reconsideration of the student's eligibility for title IV assistance.*

***COMPLETION RATE**: The pace at which a student should progress in order to complete a degree within maximum timeframe requirements.*

***FINANCIAL AID PROBATION:** A status assigned by Financial Aid to a student who fails to make satisfactory academic progress as outlined in the academic standards below appeals and has had eligibility for aid reinstated. This period may not exceed more than one term.*

***FINANCIAL AID SUSPENSION:** A status assigned by HICCUS Financial Aid to a student who fails to make satisfactory academic progress and who has been previously granted financial aid probation.*

***MAXIMUM TIMEFRAME:** For an undergraduate associate degree or certificate program measured in credit hours, a period that is no longer than 109 semester credit hours attempted prior to receiving the first associate degree.*

CGPA REQUIREMENTS: *Students are required to meet the required minimum cumulative passing grade. All students must maintain a cumulative academic average of "B" (80%) or better on all core courses exams, projects (operations) and other required course work which includes passing all laboratory evaluations.*

DEFINITION OF SEMESTER CREDIT HOURS

UNIT OF CREDIT:
Academic credits are measured in semester credit hours. The semester credits hours are defined as follows: The semester credit hour is the unit of academic measurement used in some programs.
1 Semester credit is equivalent to 15 hours of lecture
1 Semester credit is equivalent to 30 hours of laboratory 1

Semester credit is equivalent to 45 hours of externship

***A clock hour is defined as a minimum 50 minutes of supervised or directed instruction by a Texas Workforce Commission** The Semester time frame is 15 weeks during the Spring and Fall and 15 weeks during the Summer*

. ACADEMIC PROGRESS : To determine what the impact of the course activities and strategies is on the student, academic progress is evaluated with quizzes, outside classroom work, class assignments and one final exams as outlined in the course syllabus.

GRADING PERIOD: Student's *progress will be evaluated at 8 weeks and again at 15weeks. Students are notified of their grades at the conclusion of each semester. Transcripts are also upgraded at the end of each semester.*

ACADEMIC - ATTENDANCE PROBATION: *A student who fails to meet the minimum standards of academic progress is automatically placed on academic probation for the next grading period. At the end of the probation period the student's progress is reassessed. If the student meets the required minimum standards for satisfactory academic progress, that student is removed from probation, and resumes the status of satisfactory academic progress. A student who fails to meet the minimum standards of academic progress for two consecutive semesters of the program will be dismissed from the program. A student will also be placed on probation, during a grading period, for more than ten % absences during the semester.*

In each case, a designated faculty or staff member will advise the student of violation prior to placement on probation. The probation period is a maximum of 30 days. Thereafter, the designated faculty or staff member will advise the student on improvement in attendance. If the student fails to comply, with the attendance policy, then the student will receive an incomplete grade for the course. (See consequences for incomplete grade on pg. 53)

DISMISSAL

A student can be dismissed from the program for failure to maintain academic standards for two consecutive semesters, failure to maintain attendance standards and failure to comply with financial obligations. Additionally, students may be dismissed for noncompliance of the college rules and regulations stated in this catalog. Permanent separation of the student from the college means that the student is not allowed to attend class, participate in any college programs or events, be on college campus or use college property.

A student can be dismissed from the program for violation of school policies, failure to maintain satisfactory academic progress for two consecutive grading periods, violation of clinical policies, endangerment of patients, falsification of documents or failure to maintain required attendance standards.

TERMINATION WITHOUT PROBATION

A student may be dismissed without a probationary period for identified infractions. Grounds for dismissal without a probationary period include:

- *Level of incompetence representing a threat to patient safety Falsification of documents or records*
- *Moral or disciplinary failure*
- *Any harassment based on sex, race, religion or national origin*
- *Being under the influence of alcohol, marijuana, or any controlled substances not legally prescribed both on college premises and while in the clinical area*
- *Insubordination or failure to follow direct orders from a clinical supervisor*
- *Failure to adhere t Failure to adhere to weapons policies Failure to adhere to behavior policies Theft of college or clinical site property*

READMISSION

A student who has been terminated for unsatisfactory progress will not be readmitted until a minimum of one grading period has passed. A student who has withdrawn in good academic and financial standing may be readmitted providing no more than twelve (12) months has elapsed since the last date of attendance. In order for the applicant to be readmitted, the former student must pay an additional registration fee. All previous encumbrances to the college must be removed prior to readmission. Student will pay the cost of individual courses to complete the course. ***(*Title 40, Texas Administrative code, Section 807.241.245*). Students who were terminated without probation will not be eligible for readmission.***

A new enrollment agreement is required for student readmitted into the program. Student will receive credit for course work previously completed. Students who successfully appeal termination by Houston International College Cardiotech Ultrasound School will be readmitted with the same status they had at the time of termination.

INCOMPLETE POLICY

Under Texas Education code, Section 132.061(f) a student who is obligated for the full tuition may request a grade of "incomplete" if the student withdraws for an appropriate reason unrelated to academic status. Students may be issued an incomplete when thequality of work is satisfactory, but some minor yet essential requirement has not been completed, for reasons acceptable to the instructor. A student that fails to take the final examination of a course will be reported as having an incomplete. Students will be required to repeat the course at the next available course date. A student who fails a course, has an incomplete grade, or has 15% absences in a course will be required to repeat the course. If student is required to repeat a course, the new grade will replace the original grade for the purposes of the calculation of the cumulative grade point average. Students must repeat a course at the first available opportunity. Student will be charged for the cost of repeating. Charges include tuition, insurance, and or lab fees. The student must assume all associated costs. NO EXEMPTIONS.

NON-CREDIT AND REMEDIAL COURSES

The college does not offer noncredit, remedial courses or non-punitive grades

APPEALS

Appeal of probation or termination as a result of failure to maintain academic standards for two consecutive modules, failure to maintain attendance standards, or serious violation of school rules must follow the following procedure. A written statement must be submitted within seven days of receiving notification of dismissal to the Director or the Director of Education, Houston International College Cardiotech Ultrasound School, at 12135 Bissonnet Street, Suite E, Houston, Texas 77099. The mitigating circumstances contributing to the student problems, as well as student's plans to eliminate the problem must be included in the written appeal. Students must include with the written statement all supporting documents pertaining to the case. The appeal will be reviewed by the students appeal committee, and student will be notified of the decision within ten days. The committee of reviewers comprises of the Director and the Director of Education, and faculty or administrative members. Decisions made by the committee are final.

ATTENDANCE POLICY

Regular class attendance is fundamental to student success. Failure to maintain regular attendance can result in failure of a course or dismissal from the program, and some loss of financial aid benefits. Policies on attendance are strictly enforced. All absences are recorded. Attendance and absence policies are as follows:

1. *Four (4) absences are allowed with submission of a medical excuse. Failure to submit a medical excuse will result in probation.*

2. *Eight (8) lecture hour absences will result in an incomplete grade being recorded for the course.*

3. *Any student who is habitually absent from the program will be dismissed from that program when he/she is absent 15% of the total program hours.*

NOTE: *Students under Veteran's Administration Educational Assistance will be terminated, as per the VA regulations, after three (3) unexcused absences in any thirty (30) day period. Benefits may be re-installed after one (1) grading period. The Department of Veterans Affairs will be notified whenever students are placed on attendance probation or terminated for failure to meet attendance requirements The Department of Veterans Affairs also will be notified if a student re-enters following such termination. The student may be referred to the Director in order to establish an action plan leading to the completion of all pending educational assignments and/or examinations.*
Read the ***Externship Section*** *of catalog for additional information on attendance requirements.*

FULL TIME STUDENTS

All students enrolled in full-time programs must carry an academic course load of at least twelve (12) semester credit hours each semester. All foreign students must be enrolled in a full-time program to satisfy the requirements as specified by the Immigration and Naturalization services.

LEAVE OF ABSENCE POLICY

A leave of absence is a temporary interruption of the student's program of study and refers to a specific time in which a student will be absent from his or her program. The college must grant prior approval for all leave of absence, or in some unforeseen circumstances grant LOA without prior request. Leave of absence must not exceed 180 days within a school year (July 1st to June 30th). A student in good standing can appeal to the school for a leave of absence and must submit a written request to the Director or Director of Education at least twenty-four (24) hours prior to the initiation of the leave of absence, except for emergencies. A leave of absence may be granted to a student and may not exceed 180 days. Leave of absence records must be approved by the Director or Director of Education and signed by the student. A student may be granted a Leave of Absence (LOA) under the circumstances listed below:

- *Medical (including pregnancy)*
- *Family Care (including unexpected loss of childcare and medical care of family death of immediate family member)*
- *Financial*
- *Military Duty Jury Duty*

Students must request and receive LOA permission to resume his/her studies where he/she left off (as schedules permit) or at the beginning of the term. Students that have been granted LOA must resume his/her studies on the designated date or will be considered a dropout. If the student drops out the student can be readmitted following the steps outlined in the admission policy.

EMERGENCIES: *Sickness, death, or any other related incidences occurring in the immediate family.*

IMMEDIATE FAMILY: *Spouse, children, parents, brother, sister, grandparents.*

Last Day of Attendance

The last day of attendance for refund computation purposes is the last date of actual physical attendance by a student in classes. The college may determine upon review of student attendance that the student is not in attendance, and must withdraw student from enrollment after ten consecutive days of absences from school. Tuition balance will be calculated up to the student's last day of attendance.
Refunds are made on a pro-rata basis of attendance time. Refund due are based on actual monies paid. "Attendance Time" is the total of instruction hours available between the schedule start date of class and the date on which the following occurs.

(a) *The last day of attendance, if the school terminates the student*
(b) *The date of receipt of written notice from the student, or*
(c) *Ten school days following the last date of attendance.*

TARDINESS

Students are expected to be in class on time. If a student is more than 15 minutes late, then the student will be recorded as tardy. Three late are equivalent to one full day absent. Students with more than 3 late days will be given a written warning. A student will be placed on probation for continued violation of attendance policy, and will be expelled from program for violation of the attendance policy when he/she has been absent 15% of the total program hours

MAKE-UP WORK POLICY

Makeup quizzes or exams are not allowed. There is no make-up lecture.

ATTENDANCE PROBATION

Refer to probation policy on page 47 of the catalog.

TERMINATION FOR UNSATISFACTORY ATTENDANCE

Any student who is habitually absent from the classes will be dismissed from that program when he/she is absent 15% of the total program hours.

READMISSION

The Director or the Director of Education must approve re-admission. See the procedure below:

- *Request re-entry into the program from the Director or Director of Education*
- *Request is reviewed by the Director, or Director of Education. Credit for previous training will also be evaluated at this time. Students' withdrawals from programs with unsatisfactory academic progress are ineligible for financial aid.*
- *Student must clear all financial obligations to the school.*
- *Student must meet with the Financial Aid Staff to confirm financial planning.*
- *Student must complete school enrollment agreement and required admissions and financial aid paperwork. Student must successfully pass the admissions test.*

CONDUCT POLICY

Students must maintain high standards of academic progress and personal conduct. A student's conduct must not interfere with the learning process of any other student, the instructor, or the progress of the class. Violation of conduct standards include, but are not limited to: dishonesty, unprofessional conduct, use of profanity, insubordination, non-compliance with safety rules, use of alcohol or drugs on campus, vandalism of college property or equipment. A student found in violation of the conduct policy may be subject to a verbal or written warning and or dismissal, depending upon the seriousness of the offense.

Houston International College Cardiotech Ultrasound School will immediately terminate any student for a minimum of one grading period for the following offenses:

1. *Physical/verbal abuse of any person on school or externship site or at functions sponsored or supervised by Houston International College Cardiotech Ultrasound School.*
2. *Any harassment based on sex, race, religion or national origin.*
3. *Theft or damage to the college premises or clinical site. Students will be charged for the repair or replacement of any equipment lost or damaged through negligence or willful mischief.*
4. *Possessions of guns or knives, glass container or other weapons on the college or clinical externship site premises.*
5. *Violation of the law on school premises or at clinical externship sites, in a way that affects the college community's pursuit of its proper educational objectives. This includes, but is not limited to, use of alcoholic beverage and/or controlled or dangerous substances.*
6. *Violation of employee conduct and clinical externship policies at the externship site.*

If a student receives a written warning for breach of the conduct policy and carries out another conduct violation while he/she attends school, that student will be terminated. A student who is terminated for breach of college conduct standards may be eligible for re-entry if reason for termination is not listed in the termination without probation section of the catalog by appealing to the Director.

***Whether or not a student is eligible for re-entry after being terminated for breach of conduct policy is at the sole discretion of the School Director**. A student who is accepted by the Director for re-entry after being terminated for conduct violation(s) may not re-enter college until the beginning of the next grading period. A student re-entering college under these conditions will be on probation during the first grading period. The student will be removed from probation if, in the Director's opinion, the student has adhered to the college conduct policy throughout the initial*

re-entry-grading period. If the student violates the conduct policy during the re-entry-grading period, that student will be dismissed permanently.

CLINICAL CONDUCT

The clinical site is a professional medical environment. Students must conduct themselves in the professional manner deemed appropriate for the workplace including arriving on time, leaving on time and acting in a reliable and responsible manner. Students must demonstrate a professional image, demeanor and personal hygiene at all times including during clinical rotation.

Students that are expelled from the externship site by the clinical supervisor may be expelled from the program based on the circumstances or will have to wait until another clinical rotation becomes available to resume their clinical program. Therefore, students should make every effort to conduct themselves in a professional manner during externship. Dress/Personal hygiene codes must meet site standards and lab coats must be clean and neatly pressed at all times. Nails must be cut and clean. Students must adhere to site protocols and complete any and all assignments assigned by clinical instructors. At no time should student reveal any confidential medical information regarding patients.

The student's ability to complete his/her clinical site rotation is at the sole discretion of the clinical site supervisor. The clinical site supervisor may at any time, for any reason, request that the school re-locate the student to ensure that their clinical experiences are successful. ***Students are expected to demonstrate the utmost integrity and honesty while at clinical. Providing inaccurate data to the school regarding clinical attendance or performance is grounds for termination from the School.***

Unprofessional Conduct and/or Professional Misconduct

Students are expected to act in a manner consistent with the Code of Ethics for allied health professionals. Failure to comply may result in action by the Director, Director of Education, or Clinical Director, in appropriate cases, dismissal from the program. Examples include, but are not limited to:

- *Negligence in patient care.*
- *Unprofessional behavior either at the laboratory or at the clinical agency. Substantiated act or acts of patient abuse, either physical or verbal.*
- *Unsatisfactory performance as judged by the clinical supervisor. Neglect of duty with actual cause or potential to cause patient harm. Fraudulent or egregious acts.*
- */emonstrated and/or documented incompetence.*
- *Personal conduct which adversely effects the work environment and/or the supervisor's ability to perform his/her responsibilities.*
- *Exhibiting aggressive or intimidating behavior (e.g., profanities, threats, loud talking, rudeness, verbal coercion) toward*
- *or in the presence of faculty, staff, peers, patients, clients, or agency personnel*

CLINICAL ROTATION

Clinical rotation begins after the students have met all prerequisites for the clinical courses. Students will be placed in a Clinical setting to complete these courses. Clinical sites are venues designed to provide students a continuance in education, by allowing an unpaid workplace environment experience. Students who successfully complete didactics courses and receive instructor approval in required programs will be placed at a medical facility to complete the clinical rotation segment of the program before the school issues a certificate of completion. These facilities range in size from small clinics to large hospitals.

Students are expected to work the same hours as the regular employee at the assigned site. Students must be prepared to experience added stress as classroom knowledge is tested in the clinical setting. The student must conform to all clinical institution protocols and perform responsibly, ethically, including patient confidentiality in a professional manner. This section of the program will be under the guidance of the clinical institution. Site supervisors will evaluate student progress and submit evaluations to the school. All students must meet the standards of department and must submit the required time procedure logs to Trajecsys, as required. Any violation will result in the student receiving a lowered clinical evaluation grade and may cause failure of the clinical course.

Students are required to attend 100% of their clinical hours. If students miss any clinical time, arrangements for make-up time must be made with the clinical site supervisor. Students will not be considered to have completed their clinical until the site supervisor has certified all required attendance hours. Students are responsible for completing and submitting weekly clinical forms which include time sheets, evaluation sheets and log sheets. If for any reason, student is unable to attend clinical, he/she must report absence immediately to college staff and the clinical site. Failure to do this may result on attendance probation. Student must complete clinical rotation on scheduled date. Some clinical sites

may require that the student be tested randomly for drugs. Most sites accommodate one or more area institution therefore students must accept assigned sites to avoid delay in clinical rotations. No student will be exempted from clinical courses.

Attempt to place students within 65 miles of the student's home will be made by the school, however this may not be possible therefore students must be prepared to travel to sites beyond 65 miles. Student may opt to accept Clinical rotation in or out of the state of Texas or at the campus clinic. *Students may be required to complete their externship at more than one clinical site based on clinical availability. Although the school is responsible for the placement of student, any student with access to clinical sites may elect to make individual arrangements with the approval of the Clinical Director. Students who decline one clinical site may be required to withdraw from the program. Clinical rotation is an intricate segment the program; therefore, the college will schedule students to start at the beginning of each semester, and follows the schedule for the semester in which the student is enrolled. Students may be placed at the campus clinical site in the event of a wait period for an external clinical site. The externship site is not obligated to hire the student. Students must follow all the rules of the clinic and must at no time pose as an employee of the clinic. Failure to adhere to clinical rules may result in expulsion from the clinic and possibly from the program. The college is obligated to place the student at one clinical site; therefore, if the student is expelled from a clinical site on grounds of misconduct, the college is not obligated to find a new clinical site and may result in grounds for expulsion from the program.*

Clinical failure is based on the unsatisfactory performance of the student in relationship to the course objectives, expected behaviors, and attitudes that are consistent with those of a professional nurse. A student enrolled in a clinical course may receive a clinical

- *Failure to demonstrate satisfactory progress after being placed on clinical probation;*
- *Recurring absenteeism or tardiness in the clinical setting;*
- *Recurring failure to follow clinical course policies, policies of the clinical agency, or recommendations of the supervisor;*
- *Acts of dishonesty;*
- *Repeated lack of preparation for the clinical setting;*
- *Demonstrating behaviors that, in the judgment of the faculty, constitute unsafe or potentially unsafe practice; Demonstrating practices that are inconsistent with professional standards or codes of ethics;*
- *Unsatisfactory final clinical evaluation;*
- *Failure to follow instructions of clinical supervisor in caring for the patient; Use of Drug or alcoholic beverages in the academic or clinical setting; Failure to maintain acceptable level of personal health.*
- *Student liability insurance is required. A copy of the college memorandum of insurance is submitted to clinical sites.*

GRADUATION POLICY

Graduation requirements are:

:

1. *The student must pass all classes in the program and complete all course requirements, thus obtaining the total credits required for graduation, by the last day of the graduating module and achieve a minimum cumulative grade point average of 2.0.*
2. *Successful completion of externship with 100% of clinical hours .*
3. *Pass clinical competency assessment*
4. *Graduating Student must have an overall attendance rate of 85% or more.*
5. *Student has met all financial, academic, and administrative obligations.*
6. *The credit hours attempted must not exceed 1.5 times the credit hours required to complete the program.*
7. *All students must submit a copy of a resume and cover letter for review by advisory staff member least one month prior to graduation. Students must review two videos on interviewing for a job or workplace professionalism prior to completing the program*
8. *Students must complete and sign the Institution Attestation of program completion form.*
9. *Students must complete 72 semester credit hours to be awarded an associate of Applied Science degree in Diagnostic Medical Sonography and Vascular Sonography and 73 Semester credit hours to be awarded a certificate of completion in the Echocardiogram Technician.*

The GPA is based on all grades and credit hours earned to date. If a student repeats a course, the highest grade is used to determine the GPA. Withdrawal from a course does not affect the GPA. Transferred credits will not affect the GPA. Graduation ceremonies are held biannually. Students must complete all coursework and payment of all financial obligations to be awarded a certificate of awarded a certificate of completion.

MAXIMUM COMPLETION TIME

A student is not allowed to attempt more than 150% or 1.5 times of the normal length of the program of study. The requirements for rate of progress are to assure that students are progressing at a rate at which they will complete their programs within the maximum time frame. For example, a twenty (20) months program must be completed within thirty (30) months. Students that do not complete their program within the specified period will be terminated.

TRANSCRIPTS AND CERTIFICATES

Students are provided a copy of their transcript upon graduation. Additional copies will cost $5.00. Request for additional copies must be submitted in writing and include mailing address of place to be mailed. Certificates and Transcripts are issued only if all financial obligations have been met.

RECORDS AND REPORTS

Attendance and grade records for each course are maintained. Final grades are posted at the conclusion ofeach semester.

RESOURCE CENTER AND STUDENT SERVICES

Student services are designed to support students. These services include but are not limited to:

- Orientation of new students Academic Advising
- Library Catalog
- Student Handbook ID card
- Child care information and guidance
- City and county drug abuse hot line numbers Study tips information
- Board exam guide
- Incumbent weather information Alumni privileges.
- Handicapped Parking Handicapped Restrooms Computers
- Internet access

Academic Advising:

Individual assistance and advice are given to students routinely at no cost. Students are advised to schedule an appointment with their instructor, director of education, or school director to resolve any problems regarding academics. Guidance on studying for national registry exams is available to all students.

Alumni Privileges:

Graduates in good standing can request a letter of recommendation at no cost. Employment opportunities information are available to all graduates and current students.

Orientation of New Students:

A four-hour orientation session for new students is conducted each semester prior to the start of classes. Orientation provides students with information about school's policies, procedures, time management, test taking strategies, safety codes, and staff. Students are responsible for the information provided at orientation and the policies and procedures in the Student Handbook. Student Handbooks are distributed at orientation

Academic Guidance and Tutoring

Advising and guidance is available to students throughout the student course of study. Faculty advice and assistance is available for academic problems. Problems of a serious nature should be brought to the immediate attention of the School Director for resolution.

Placement Assistance and Career Advising

Job Search Assistant is provided to graduates in good standing for as long as the graduate continues to cooperate and work with the institution. ***The college does not and cannot promise or guarantee employment upon graduation.*** *There is also the risk that due to job market fluctuations, personal issues or uncontrolled circumstances some graduates may be unable to find employment in their field of training within a time frame that is acceptable to them. Finding employment is a united effort between the graduate and institution.*

Typically, the program of choice is designed to enhance the graduate's entry level skills, and potential productivity. Often job are not available within the city of residence of the graduate. Graduates should be prepared to relocate or willing to accept a position outside their immediate area if necessary to initiate the process of employment in the field of study.

JOB SEARCH ASSISTANCE:

- *Good resume development*
- *Resume writing to target specific jobs class Cover Letter Writing*
- *Coaching for Jobs Locations Job Board*
- *Job Placement Assistance Job search techniques Interviews Readiness Interviewing skills Interview scheduling*

Employment

Graduates are not guaranteed employment. Placement assistance is available for student in the form of job leads and the use of college resources for job search. A list of agencies and employers is readily available to graduates and students. A bulletin board with job opening is made available to all students.

ADDITIONAL SCHOOL REGULATIONS ANDINFORMATION

DRUG FREE WORKPLACE POLICY: *It is unlawful to manufacture, distribute, dispense, have in one's possession, or use a controlled substance. The use of such is prohibited on school premises. Failure to adhere to the Drug Free Workplace policy*

may result in dismissal.

WEAPONS POLICY: *Guns, knives, glass containers and any instruments considered as a weapon are not permitted on the premises. Therefore, any student caught with these items on campus will receive written warning and possibly expelled for constant violation of such.*

SMOKING: *Houston International College Cardiotech Ultrasound School is a smoke fee facility. No smoking is permitted in the building. This rule applies to all personnel, visitors and student body.*

DRESS/HYGIENE CODE : *The institution adheres to a strict dress code in keeping with the ethics of the profession. Students are required to wear teal scrubs and white lab coats on campus and at the clinical sites. Student IDs must be worn at all times on campus and at the clinic, without exceptions. Students must prioritize personal hygiene. Offensive body odor is not tolerated at any time on campus or at the clinical site. Violation of the dress/personal hygiene codes may result in students being sent home. Numerous violations of this rule will result in the student being put on probation, or being dismissed from the program.* ***No slippers are allowed at any time.***

HOUSING: *Housing is not available. International and out-of-state students are referred to housing providers for assistance in obtaining appropriate accommodations.*

LIVING EXPENSES: *Living expenses are not included in the tuition fee. A typical one-bedroom apartment in Southwest Houston is approximately $800 per month. An apartment guide can be requested from the school.*

CLASS AND LABORATORY SIZE : *Faculty to student ratio low. Classroom and Lab sizes do not exceed 20 students per instructor.*

HEALTH AND SAFETY: *The facilities housing the Houston International College Cardiotech Ultrasound School comply with the requirements/regulations of state and local building codes, the board of health and fire department. In case of an emergency during school hours, the school will take the appropriate action.*

A statement of general health must be completed by the student's physician. Students are required to provide documentation of immunization or that they have begun the immunization process and provide documentation of completing requirements before clinical rotation begins.

COPYRIGHT: *Houston International College Cardiotech Ultrasound School complies with the US Copyright laws.*

PERSONAL PROPERTY: The *school is not responsible for the loss of student's books, supplies or any of their personal belongings. Students must keep their personal belongings with them while at school.*
RECORDS ON HOLD: Houston International College Cardiotech Ultrasound School reserves the right to hold academic records for any of the following reasons:

- *Default on a Federal Loan*
- *Failure to meet financial obligations*
- *Failure to return college property, including equipment and books*

LOST AND FOUND: *All items found on College premises should be brought to the front office. Items found must be claimed within 60 days.*

LIBRARY: *In order to borrow books, students must present a valid identification card. Most library books may be checked out for a 2-day period. Overdue items will incur a fee of $5.00 per day.*

SURVEYS: *In an effort to enhance a high quality, the College conducts periodic students, graduates and employers' surveys. These surveys are reviewed, and recommendation for programs enhancement are made to the board of directors.*

FAMILY EDUCATION RIGHTS AND PRIVACY ACT—FERPA: The *family rights and Privacy Act of 1974 prohibits an institution from releasing the school records or any other information about a student to any third party without the written consent of the student.*
Under the authority of the Family Educational Rights and Privacy Act of 1974 (the Buckley Amendment), students have the right to inspect and review all of their educational records except for the following:

Financial records of students' parents, confidential letters of statements placed in the file prior to January 1, 1975, psychiatric or medical purposes, students' records by instructors or administrators maintained and accessible only to instructors and administrators.

In accordance with this Act, eligible students have the right to inspect and review their records within forty-five (45) days after the student submits a written request. A student may request to review official College records with an administrator at a mutually convenient time during regular working hours. If information is inaccurate, the student may request its removal or include a statement disputing the information.

Copies require at least one week's notice and prepayment of twenty- five cents per page. Cardiotech Ultrasound School reserves the right to withhold transcripts, grades, and other information in the event on unpaid tuition, other fees, unreturned library materials, or other unfulfilled requirements .

Class Attendance Students receiving VA benefits need to meet the attendance required, please refer to VA Program Specific SAP Overview. Failure to do so will result in the loss of benefit. Veterans will also be informed of how many hours in addition to the Lecture/Labs they need to complete for ride along and clinical on a weekly basis. They will be initially certified for the Lecture/Labs hours their class schedule calls for and as soon as they start doing internships, the student will notify the VA SCO for their schedule to be adjusted in the VAONCE. These attendances will be monitored on a Monthly basis.

Grade/Progress Reports Veteran's Attendance Policy

For every three (3) early departures, class cuts, tardies, etc., for any portion of a class period will be counted as 1 absence. Students exceeding 20% total absences in a calendar month will be terminated from their VA benefits for unsatisfactory attendance.

In order to show that the cause of unsatisfactory attendance has been removed, students must show good attendance (as defined) for one calendar month after being terminated for unsatisfactory attendance. After such time, the student may be recertified for VA education benefits. VA student's attendance record are retained in the veteran's file for USDVA and SAA audit purposes.

VA Students Standards of Progress

Standards of Academic Progress for VA Students receiving VA educational benefits must maintain a minimum cumulative grade point average (CGPA) of 2.0 equivalent to a grade of C each semester.

A VA student whose CGPA falls below 2.0 equivalent to a grade of C each semester will be placed on academic probation for a maximum of two consecutive terms of enrollment. If the VA student's CGPA is still below 80%at the end of the second consecutive term of probation, the student's VA educational benefits will be terminated.

A VA student terminated from VA educational benefits due to unsatisfactory progress may petition the school to be recertified after attaining a CGPA 2.0 equivalent to a grade of C each semester.

Students certified to receive VA benefits must maintain a satisfactory academic progress. These are found under the specific program grading policy in this catalog. Students who fall below minimum passing grade requirement will be placed on probation. Failure to raise their grade to the graduation standard after one term on probation will have their veteran benefits interrupted.

VA education benefits may be interrupted if any of the following should occur:

- *The veteran fails to submit all previous college transcripts for evaluation.*
- *The veteran fails to convert an "I" (Incomplete) grade to a letter grade within enrollment of specified program from receipt of the "I" grade.*
- *The veteran fails to attend class for the term for which VA benefits are received.*
- *The veteran fails to achieve the minimum passing grade after one terms of probation.*

VA STUDENTS

Each student who has VA benefits will be provided a grade/progress report at the end of every evaluation period (monthly). A copy of each report will be placed in the student's permanent file maintained by the school. The College periodically furnishes each student with a working progress report that shows current status of grades and earned clock hours and or semester hours and grades for all courses in which the student is currently enrolled.

VA STUDENTS LAST DATE OF ATTENDANCE

Houston International College Cardiotech Ultrasound School determines the last date of attendance for any VA benefits participant via Classroom/Lab attendance sheets, clinical time sheets, and clinical internship evaluations submitted by instructors and documented within Trajecsys.

The last day of attendance is the last physical day the student was in College.

VA STUDENTS STUDENT CONDUCT

All students are expected to comply with the legal and ethical standards of this institution. Academic dishonesty and/or nonacademic misconduct will result in disciplinary action. Specific instances of misconduct include, but are not limited to, cheating, plagiarism, knowingly furnishing false information to the institution, and forging or altering institutional documents and/or academic credentials. The institution reserves the right to require a student to withdraw at any time for misconduct. It also reserves the right to impose probation or suspension on a student whose conduct is determined to be unsatisfactory. Students who feel their rights have been denied are entitled to due process.

VA Students Probationary Period

When the grade average or attendance of a student is unsatisfactory for a calendar month, the student will be placed on probation. If during the next month, the student's grade average is still unsatisfactory, the SCO will update the VA ONCE with the students' unsatisfactory progress.

VA Students Notification

It is the responsibility of each student to track his/her own progress and academic standing. However, the SCO will make every effort to notify students of probationary/suspension standing in a timely manner at the end of each term.

VA Students Reinstatement of VA Benefits

A student may regain eligibility for Veteran's Educational Benefits assistance after he/she has brought their coursework up to minimum standards. Re-enrolled former students who do not meet minimum standards will be placed on Veteran's

Educational Benefits probation and receive aid due to them during the probationary term.

The VA SCO at the college will notify the Veterans Administration of unsatisfactory progress if any of these requirements are not met.

VA Students Program Specific SAP.

See College SAP policy on page 62 of this catalog. Veteran's Credit for Previous Education or Training Students must report all education and training. The college evaluates and grants credit, if appropriate. Training time is shortened, and tuition reduced proportionately. The VA and student will be notified.

GRIEVIANCE POLICY/PROCEDURES: *Any student who cannot resolve a grievance can request a meeting to lodge their grievance of the issue with the Director and Director of Education. Concerns should be expressed as soon as possible after the event occurs. A student who believes that he/she has been treated with substantial unfairness should initially attempt to resolve the matter by the end of the academic semester (fall, spring, or summer) following the academic semester when the alleged incident occurred. Grievance and any information about it should be treated with the utmost confidentiality and with sensitivity. The outcome will be recorded in the students' files. Complaint must be submitted in writing.*

Unresolved grievances may be directed to the:

Texas Workforce Commission, Career Schools and Colleges, 101E 15th Street, Austin. Texas 78778-0001. Tel: 512-936- 3100. Accrediting Bureau of Health Education Schools, 7777 Leesburg Pike, Suite 314N.Falls Church, Virginia, 220466, 703-917-9503 Texas Veterans Commission, Veterans Education Program, P.O. Box 12277, Austin, Texas 78701, 877-898-3833

STUDENT RIGHTS AND RESPONSIBILITIES

All students have the right to know Houston International College Cardiotech Ultrasound School's: Accrediting and licensing agencies

- *Programs Faculty and staff*
- *Terms of the enrollment agreement Financial aid availability*
- *Cost of attendance*
- *Payment amounts, cancellation and deferment provisions for all money paid by the student. Appeals process*
- *Course completion requirements Crime statistics*
- *Policies on Sexual harassment*
- *Policies on protection against an instructor's improper disclosure of student's views, beliefs, and political association whichmay surface as a result of instructing, advising, or guidance*
- *Methods of determining satisfactory academic progress and how it affects the student's financial aid availability Competent instruction and advisement*

All students have the following responsibility:

- *To inquire about course requirements*
- *To maintain the standards of academic performance established for individual courses and for programs of study. To initiate an investigation if they believe their academic rights have been violated*
- *To review and consider all aspects of Houston International College Cardiotech Ultrasound School's program before enrolling To complete documentation accurately and truthfully*
- *To provide additional documentation, verification, correction, etc., as requested by College To read, understand and keep copies of all forms received.*
- *To learn the content of any course of study*
- *To notify school of any changes in financial situation*
- *To act in accordance with commonly accepted standards of academic conduct To notify the school of any address phone numbers or email changes*
- *To read and understand satisfactory academic progress policy To read and understand the refund policies*
- *To sign all required certification statements*
- *To pay all financial responsibility as specified by the Enrollment Agreement*

Disabilities

Students with disabilities requiring special arrangement must notify the Director, Director of Education or Instructor. Upon receipt of request arrangement will be made to accommodate student based on specific disability.

GRADUATES WORKPLACES

Methodist Hospital Willowbrook, Houston, Texas
Methodist Hospital, Texas Medical Center, Houston, Texas
Methodist Hospital, Baytown, Texas
University of Texas Medical Branch, Galveston, Texas.
Pennsylvania Cardiology Associates, Langoria, Pennsylvania
Memorial Hermann Hospital TMC, Houston Texas
Memorial Hermann Hospital S.E. Houston Texas
Memorial Hermann Hospital Sugarland, Texas
Memorial Hermann Hospital SW. Houston, Texas
Memorial Hermann Hospital, Pearland
Memorial MRI, Houston, Texas
Kingwood Hospital, Kingwood, Texas
CHI St. Luke's Health System-Baylor, Houston, Texas.
CHI St. Luke's Health System-Baylor, Sugarland Texas.
CHI St. Luke's Hospital Vintage, Houston, Texas
North Cypress Hospital, Cypress, Texas
North Texas Cardiology, Dallas Texas
Houston Cardiovascular Associates, Houston, Texas
Memorial Cardiology Assoc., Houston, Texas.
Katy Cardiology Associates, Houston, Texas.
Hospital of the Mainland, League City, Texas
North Houston Heart Center, Houston, Texas.
Interventional Cardiology, Houston, Texas
Oregon Health and Science University, Portland, Oregon
Montgomery Heart and Wellness Center, Houston, Texas
HCA Medical Center Hospital, Houston, Texas
HCA West Houston Hospital, Houston, Texas
HCA Pearland Hospital, Houston, Texas
HCA Kingwood Hospital, Houston, Texas
HCA North Cypress Hospital, Houston, Texas
Houston Medical Imaging Katy
Houston Medical Imaging Pearland
Houston Medical Imaging Richmond Ave, Houston
Echo Unlimited
Frontera Strategies Multiple Locations
Dr. D's Emergency Centers
Dr. Ahmed Women HealthCenter

All programs offered by Houston International College Cardiotech Ultrasound School are residential.

Programs Approved and regulated by: The Texas Workforce Commission, Career Schools and Colleges, Austin, Texas.

Houston International College Cardiotech Ultrasound School reserves the right to amend this catalog, its rules and regulations at anytime at the discretion of Cardiotech Ultrasound School, Texas Workforce Commission, Career School and Colleges.

TRUE AND CORRECT STATEMENT

"The information contained in this catalog is true and correct to the best of my knowledge."
Joan H. Douglas, CEO, MS, RDCS, RCS.