



Imaging Science Education Programs
Echocardiography

PREFACE

Adult Echocardiography

WVU Hospitals offers a 12-month, 40 hour-per week education program in Adult Echocardiography. It is designed to provide students with the basic knowledge and principles necessary to perform echocardiographic procedures in the clinical setting. The program is hospital based. The essentials and guidelines for accreditation are available to students to read and may be found in the office of the Education Coordinator.

WVU Hospitals awards a certificate to each student who satisfactorily completes all courses of study and fulfills all clinical requirements of the program. Upon graduation, students are eligible to sit for registry exams offered by the American Registry of Diagnostic Medical Sonographers and the Cardiovascular Credentialing International. Applicants to the program must hold an Associate degree or higher.



Imaging Science Education Programs
Echocardiography

The following information has been prepared to inform the students of both policies and procedures of the facilities as well as the didactic and clinical requirements expected of them during their educational endeavor.



Imaging Science Education Programs
Echocardiography

Table of Contents

Mission Statement	pg. 4
Faculty	pg. 5
Policy Change	pg. 9
Recruitment Policy	pg. 10
Admissions Policy	pg. 11
Transfer Credit/Advanced Placement/Part-Time Policy	pg. 22
General Information	pg. 23
Orientation Policy	pg. 25
Attendance Policy	pg. 26
Attendance Documentation Policy	pg. 31
Trajecsys Report System	pg. 33
Hours of Academic & Clinical Education Policy	pg. 35
Program Clock Hours	pg. 36
Course Descriptions	pg. 39
Sample Schedule	pg. 42
Required Textbooks	pg. 43
Course Lecture Session Make-Up	pg. 47
Clinical Education Procedures & Standards Policy	pg. 48
Direct/Indirect Supervision Policy	pg. 64
Clinical Education Make-Up	pg. 66
Clinical Instructor Evaluation	pg. 67
Pregnancy Policy	pg. 69
Graduation Policy	pg. 71
Program Effectiveness/Outcome Assessment Policy	pg. 73
Access or Release of Student Records	pg. 77
Off-Site Educational Hours Policy	pg. 79
Scan Lab Exams Policy	pg. 82

Medical Advisor: Dr. Yasmin Hamirani

Education Coordinator: Katie Colley

Mission Statement

The Echocardiography program at West Virginia University Hospitals serves to facilitate the growth and development of the student in cardiac sonographic imaging. Through continued technological advancement and a strong commitment to education, West Virginia University Hospitals serves as the foundation on which students can cultivate and expand their knowledge of the technical, professional, and philosophical aspects of medical imaging and the healthcare environment. The program strives to provide our students with an educational environment that is conducive to attaining positive learning outcomes and is comprehensive in providing clinical experience and patient care opportunities.

Goals

1. To prepare competent entry-level Echocardiographers in the cognitive(knowledge), psychomotor (skills), and affective (behavior) learning domains.
2. To develop students with effective communication skills.
3. To instruct students in the use of critical thinking and problem solving skills.
4. To encourage students to demonstrate professionalism.

IMAGING SCIENCE EDUCATION PROGRAMS
Echocardiography**Faculty**

Katie Colley, RBA, RDCS, RVT, RDMS, RTR
Education Program Coordinator; Didactic Instructor

Greg Harvey, RCS, RVS
Lead CV Sonographer; Clinical Instructor

Tonya Matthis, RCS, Associates DMS
Clinical Coordinator; Clinical Instructor

Stephanie Berkhimer, RCS
CV Sonographer; Clinical Instructor

Brian Cardenas, RDCS, RVT
CV Sonographer; Clinical Instructor

Lisa Dzurnak, RDCS
CV Sonographer; Clinical Instructor

Dawn Smith, RCS
CV Sonographer; Clinical Instructor

Jennifer Smith, RDCS
CV Sonographer; Clinical Instructor

Maura Vuletich, RDCS
CV Sonographer; Clinical Instructor

Jillian Durigon, RDCS
CV Sonographer; Clinical Instructor

Instructors may change throughout the year due to staffing and/or the addition of credentialed Sonographers

Education Faculty

Amanda Pechatsko
Administrator, Radiology

Jay Morris
Education Manager

Ron Linn
Clinical Coordinator, Radiology Ed.

Debbie Ferencz
Clinical Instructor, Radiology Ed.

Joy Mason
Clinical Instructor, Radiology Ed.

Tiffany D. Davis
Education Coordinator, Nuclear Medicine

Brad Holben
Education Coordinator, MRI

Candice Norris
Education Coordinator, Ultrasound

Christina Paugh
*Education Coordinator, Radiation
Therapy*

Katie Colley
*Education Coordinator,
Echocardiography*

IMAGING SCIENCE EDUCATION PROGRAMS
Echocardiography**Heart and Vascular Institute Clinical Administration**

Yasmin Hamirani, MD
Medical Advisor; Echocardiography Program

Charles Murray
Director of Cardiac Imaging

Frances Spishock, BSN, RN
Manager Cardiac and Vascular Services Noninvasive

Melissa Rose, MA RT(N), CNMT
Manager Cardiac and Vascular Services Noninvasive
HVIS Nuclear Cardiology-ECG

Diana Stofcheck, RVS
Supervisor Cardiovascular Ultrasound

Tonya Matthis Associates DMS, RCS
QA Coordinator, Clinical Coordinator

Gregory Harvey RCS, RCS
Lead Cardiac Sonographer

Policy Change

The administration of West Virginia University Hospitals and the faculty of the West Virginia University Hospital's Imaging Science Education Programs reserve the right to change any of the stated policies as necessary and/or when advisable for improvement of or to meet new standards within the program.

Education Coordinator

Recruitment Policy

As part of the requirements of the Essentials and Guidelines for an Accredited Program of Echocardiography, adequate announcement and advertising that accurately reflects the program must be practiced. To comply with this, our program information is available on the WVUH Imaging Sciences Education Programs' website. Letters and advertising materials are sent out to many radiography programs in the state and surround areas.

Adult Echocardiography Admissions Policy

West Virginia University Hospitals and those responsible for the administration of the Imaging Science Education Programs consider each applicant without regards to race, religion, color, national origin, ancestry, age, sex, sexual orientation, gender identity, disability, veteran status or any other status protected by applicable law. The program coordinator reserves the right to limit enrollment based upon the quality of the applicant pool and current employment market conditions. Admission to the Echocardiography Program is governed in accordance with the following minimum admission requirements.

Requirements for Admission Consideration

All of the following criteria are required for admission consideration and documentation must be received on or before **February 1st** of the year in which the student is applying for admission.

1. Applicant **must** review the Essential Performance Standards form located on the program's web-site <http://wvumedicine.org/radtech/echocardiography/>
2. Applicant **must** possess, at minimum, an Associate's degree (*or pending graduate*) of a 2-year postsecondary, Allied Health education program that is patient care related. Allied Health occupations include, but are not limited to Radiologic Technology, Respiratory Therapy, Occupational Therapy, Physical Therapy, Registered Nurse, and Licensed Practical Nurse.
3. Applicant **must** submit the following by the **February 1st** deadline to be considered for the program starting in July:
 1. Program Application
 2. Three Personal Reference Forms
 3. Official high school grades or G.E.D. scores
 4. Official transcripts of all post-secondary education
 5. American College Test (ACT) scores or Scholastic Aptitude Test scores (SAT)
 - i. Minimum required composite score: ACT ≥ 19 , or SAT ≥ 900 .
 - ii. Requirement may be waived for applicants possessing a baccalaureate degree.
 - iii. ACT School Code - 4549 SAT School code - 3863

Academic Evaluation

Program officials utilize an established, objective screening mechanism to assign academic points to a candidate based on their current level of academic achievement. The following categories are evaluated in assigning academic points:

1. American College Test (ACT) scores or Scholastic Aptitude Test scores.



Imaging Science Education Programs
Echocardiography

2. Applicant must document completed college level course work in the following:
 - a. Mathematics (Statistics, Calculus, Trigonometry or Algebra accepted)
 - b. General physics (Radiology physics is accepted)
 - c. Communication skills (English, Speech, or Composition accepted)
 - d. Human Anatomy and Physiology
 - e. Patient Care (clinical experience and/or current job experience accepted)
3. College level education grades to include:
 - a. Cumulative GPA/Weighted Average
 - b. Mathematics (cumulative)
 - c. Physics
 - d. Communications
 - e. Human Anatomy & Physiology(cumulative)
4. College / University Credit (based on GPA relative to number of hours completed)
5. College / University degree (BA, BS, MA, etc.)
6. Healthcare Experience

Interview Evaluation

Interviews are granted to the top candidates each year; however, the Education Coordinator reserves the right to limit or expand this number based on the quality of the applicant pool. Applicants not receiving an interview will be notified by mail. Interviews will be conducted in February or March of each year and candidates will be notified of their admission status no later than April 1st of each year.

Interviews are conducted by an admission's committee consisting of a least three members selected by the Education Coordinator and may include faculty members, department managers and /or clinical staff. Using a standardized form, total interview scores from each committee member will be calculated and averaged for each candidate. The need for a virtual interview based on geographical location or other extenuating circumstances will be evaluated on a case by case basis by the Education Coordinator.

Overall Evaluation

The Admission committee will review the total academic and interview scores and finalize the assessment by assigning up to 5 additional points to the candidates score based on programmatic fit and the candidates projected ability to be successful in the program.



Imaging Science Education Programs
Echocardiography

Selection

The Education Coordinator will rank the candidates in descending order and will extend offers to top candidates having the highest overall scores (available seats in the program, vary year to year with an average of 4 students). The next 3 candidates will be waitlisted in the event one or more of the top candidates do not accept the position. Waitlisted positions expire once a class is filled and do not carry over to the next admission year.

The candidates selected for admission will receive:

- a. Acceptance letter
- b. Access information for the student handbook
- c. Statement of Intent To Enroll (to be signed and returned)
- d. Essential Performance Standards Form
- e. Invoice for Admission Fee

All other applicants interviewed will receive a written verification of their non-admission or waitlisted status.

Acceptance

The selected applicants will be given approximately 10-15 business days to respond to the offer of admission by completing the following prior to the established deadline:

1. Read the Student Handbook
2. Sign and return the Statement of Intent to Enroll form
3. Sign and return the Essential Performance Standards form
4. Submit a \$50.00 check to WVUH for the admissions fee

If an applicant fails to respond to the offer of admission by the established deadline, the program coordinator will consider the offer as void, and will proceed by offering the position to a wait-listed applicant.

Enrollment

Enrollment is contingent upon the student satisfactorily completing the following screening and assessment procedures within the guidelines specified by West Virginia University Hospitals (WVUH). These screenings will be conducted during the orientation time frame or at a time specified by program coordinator. Students will be provided with additional information regarding these procedures prior to the program start date.

Students will be required to:

- (1) Complete a health assessment and a vaccination record review conducted by the Employee Health department.
- (2) Complete the criminal background investigation process. (See WVUH Policy V.036)



Imaging Science Education Programs
Echocardiography

- (3) Complete the drug screening / testing process. (See WVUH Policy V.035)
- (4) Complete all other WVUH mandatory orientation procedures.

Weighted Values for Applicant Admission Points

The following values will be assigned to the applicant's previous academic achievements and the personal interview. Points assigned to each candidate will be summated and utilized as criteria for admission consideration:

I. ACT/SAT scores

<i>ACT Composite Score</i>	<i>SAT Score</i>	<i>Points Assigned</i>
≥ 30	≥ 1350	4
≥ 26	≥ 1200	3
≥ 22	≥ 1040	2
≥ 18	≥ 899	1
< 18	< 899	0

II. College level coursework

Applicants are awarded academic credit points towards admission for each of the following course categories based on the following letter grade scale:

<i>Course</i>	<i>Letter Grade</i>	<i>Points Assigned</i>
Physics	A	5
Anatomy & Physiology	B	4
Written Communications	C	3
College Mathematics	<C	0
Applicable Science (cumulative)		
Applicable Healthcare (cumulative)		

III. Radiography / College / University Credits

Points are awarded to applicants based on the applicant's average GPA (cumulative college/university plus radiography). Points are awarded based on the following scale:

<i>Associate Degree</i>		<i>Baccalaureate Degree</i>		<i>Graduate Degree</i>	
<i>GPA</i>	<i>Points Assigned</i>	<i>GPA</i>	<i>Points Assigned</i>	<i>GPA</i>	<i>Points Assigned</i>
≥ 3.59	3	≥ 3.59	5	≥ 3.59	7
≥ 2.99	2	≥ 2.99	4	≥ 2.99	6
≥ 1.99	1	≥ 1.99	3	≥ 1.99	5
< 1.99	0	< 1.99	0	< 1.99	0

IV. Healthcare Experience

Points are assigned to candidates that document healthcare related work experience not including their radiography clinical education:

<i>Category</i>	<i>Points Assigned</i>
Health Related \geq 3 years	3
Health Related \geq 2 years	2
Health Related \geq 1 year	1
No Health Related Experience	0

V. Personal Interview

Individual interviewer points in the following categories are summated and averaged to obtain an overall average interview score (see interview form). Points are assigned based on the range below:

<i>Category</i>	<i>Points Assigned (see Interview form)</i>
Appearance	1 – 5 points
Affability/Attentiveness	1 – 5 points
Emotional - Stability	1 – 5 points
Personality	1 – 5 points
Communication Skills	1 – 5 points
Comprehension	1 – 5 points
Knowledge of Profession	1 – 5 points
Initiative & Drive to Succeed	1 – 5 points
Initiative towards Program Admission	1 – 5 points

Education Coordinator

Transfer Credit/ Advanced Placement/ Part-Time Student Policy

This policy serves to identify the Programs' philosophy relative to transfer of credit advance placement of students and part-time student attendance.

With respect to the following considerations:

1. The Adult Echocardiography program length of 12 months; the Pediatric Echocardiography program length of 6 months;
2. The specificity of the course content;
3. The precise correlation between the didactic curriculum and clinical education;
4. The sequential and progressive nature of the curriculum format;
5. The competitive nature of the enrollment process; and
6. The operational hours of the clinical facility.

The Echocardiography Programs at West Virginia University Hospitals does not make provisions for transfer credit, advance placement status, or part-time enrollment.

General Information

Certificate

A certificate of completion of 12 months schooling in Adult Echocardiography is awarded to each student upon successful completion of the program.

A certificate of completion of 6 months schooling in Pediatric Echocardiography is awarded to each student upon successful completion of the program.

Transcript

The student will be provided a transcript of grades upon satisfactory completion of the Echocardiography Education Program. Additional transcript of grades and other information will be forwarded upon written request.

Licensing

Upon successful completion of the Echocardiography Program, students are eligible to sit for registry exams offered by the American Registry of Diagnostic Medical Sonographers-Adult Echocardiography specialty and the Cardiovascular Credentialing International. Registry applicants must provide documentation of an Associate degree or higher.

Upon successful completion of the Pediatric Echocardiography Program, students are eligible to sit for registry exams offered by the American Registry of Diagnostic Medical Sonographers-Pediatric Echocardiography specialty.

Financial Aid

This program is not eligible for financial aid.

Semester Dates

Adult Echocardiography: Semester I & II
Semester I: July 1-December 31
Semester II: January 2-June 30

Class/Clinical Schedule

Adult Echocardiography:
Monday-Friday 7am-3:30pm

Holidays and Vacation

The Echocardiography Program will observe all official corporation holidays. Students are granted also three weeks of vacation during their 12-month enrollment in the Program. Vacations are scheduled as two full weeks during winter and one week in the spring. Program officials reserve the right to alter vacation dates.

Outside Employment

Any outside employment by the student cannot interfere with the Program. Students are expected to be available for all didactic and clinical education as required by program guidelines. The program hours vary during the first two weeks of July, which include orientation events with daylight hours.

WVU Employee Tuition Reimbursement

Students in the Echocardiography Education Program may be eligible for WVU Medicine Employee Tuition Reimbursement program. Students must meet all policy eligibility requirements and should follow program guidelines for submissions. The Employee Tuition Reimbursement Policy is available on Connect>Policies and Protocols>WVUHS. To view eligibility requirements for tuition reimbursement and frequently asked questions, please visit HROneSource at HROneSource.org and click on the Benefits icon. Click the *Tuition Programs* link for additional information. If you have any questions regarding this information, please contact HROneSource at 833-599-2100 or submit a Service Request online at HROneSource.org.

Housing

Students are responsible for making their own living arrangements. University housing is available, and the University Housing Office can offer assistance in locating suitable housing. Please contact: WVU Housing Office, Morgantown, WV 26506.

Placement Service

The program cannot guarantee employment to the student based upon program completion, but assistance is provided in obtaining employment through posting of current job openings and listings.

Lockers

Each student is assigned a locker located outside of the Radiology Administration Suite (Ground level), as space is available. The department and WVU Hospitals are not responsible for lost or stolen items.

Attendance of Educational Opportunities

Students may be granted time off to attend educational meetings deemed valuable by Program Officials. Each student is expected to provide written documentation of their attendance. Each student is responsible for their own transportation and expenses. Travel to and from educational opportunities is done on your own recognizance. Neither WVU Hospitals, the Radiology department, nor the Echocardiography Education Program may be held responsible for your safety and well-being.

Libraries and Student Resources

Two libraries of reference books and periodicals are maintained by the Radiology department library and the WVU Health Science Center Library. You have the privilege of using these materials for your students. Students also have access to the textbooks in the Education Coordinator's office. A list of textbooks and reference materials can be found in the Coordinator's office. All reference materials must be checked out and returned by the due date. A lost book or reference must be replaced at the student's expense prior to graduation.

Upon completion of the Program a "Library Release" form must be completed by the WVU Health Science Center Library and turned into the Education Coordinator. Students will not graduate if all books or reference materials have not been returned.

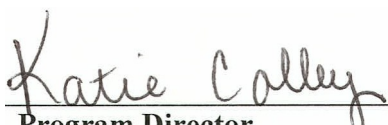
Mandatory Orientation Policy

It is the policy of the West Virginia University Hospital Education Program in Echocardiography to provide basic hospital and echocardiography department orientation information to new students. Orientation is mandatory for all students; however, in the extraordinary event that a student would not be able to attend, the student will be required to use their personal time off in accordance with the Attendance Policy. Personal time off (PTO) in the amount of 8 hours for each day missed will be changed. The student is solely responsible for obtaining any information missed during new student orientation.

Throughout the first seven⁴¹ week of the program, additional mandatory orientation training events will be held, which include, but are not limited to:

- (1) IV and Vitals Training
- (2) CPR
- (2) EPIC Training
- (3) Lift Training
- (4) Any additional training scheduled by the Education Coordinator

In the event that a student would be absent for any training event deemed mandatory by the Education Coordinator, the Attendance Policy applies, and the student must make alternate arrangements to make up the training before continuing with their clinical rotation in August.


Program Director

4/12/2020
Date

Attendance Policy

A student's daily attendance is vitally important in order for them to maintain satisfactory didactic and clinical performance. Students that miss exceptional amounts of clinic time will find it difficult to acquire the exams needed to fulfill their clinical education requirements. Students need to realize that poor attendance during their education can have a negative effect on their future. Employers tend to be wary of student applicants that have a record of excessive absenteeism. It is natural to relate absenteeism with a poor work ethic and a lack of commitment to the profession.

Personal Days Off: (PDO)

Personal days off (PDO) may be utilized for unscheduled absences (illness, personal emergency, etc.) and scheduled absences (job interviews, doctor appointments, etc.).

Twelve-month programs:

The student will be allotted six (6) personal days off (48 hours PDO) for a twelve-month program. In addition, each school year will include three (3) weeks of leave to include: 2 weeks over the Christmas / New Year holiday, and one week in the spring.

Eighteen-month programs:

The student will be allotted nine (9) personal days off (72 hours PDO) for an eighteen-month program. In addition, each school year will include four (4) weeks of leave to include: 2 weeks over the Christmas / New Year holiday, one week in June, and a final week in the fall which is determined by the education coordinator.

Scheduled & Unscheduled Absences:

1. It is the student's responsibility to notify both the Program Director and Clinical Rotation site when calling to report off for illness or other personal emergencies. Notification must be received by a Program Official no later than 30 minutes prior to the beginning of the student's assigned shift. Failure to call a Program Official in a timely manner will result in the student receiving an unexcused absence for that day. Students are required to leave a message on the phone mail system of the Program Director and the clinical rotation site.
2. In addition to calling off, students must document their absence by completing a Personal Leave Request form in Trajecsys. Comp time may not be utilized for unscheduled absences.
3. Students that miss consecutive days due to an illness will be charged only one (1) personal day off (8 hours PDO) for every three (3) days of absence, providing the student has a valid medical excuse from a physician stating the amount of time that the student is excused. The provision does not apply to time missed due to illnesses or incapacitation related to elective procedures or surgeries. Please refer to the Medical Leave of Absence policy regarding extended illnesses.
4. PDO and comp time shall be granted in minimum increments of 1 hour for both scheduled and unscheduled absences, unless previously approved by the Program Director.
5. Students requesting time-off for non-emergent reasons should pre-schedule PDO or comp time with program officials by the end of their shift at least one (1) day prior to the requested time off. Students should complete a

Personal Leave Request form in Trajecsys and inform the Program Director as soon as the form has been submitted to ensure prompt review.

Excessive Absenteeism

This policy serves to identify the procedure and criteria implemented when a student exceeds their allotted number of personal days off (PDO).

1. Excessive absenteeism will not be tolerated. If a student exhausts their allotted PDO days, they will be subjected to the following disciplinary action.

Twelve-month programs:

- a. If the 6 allotted PDO days are exhausted, the student will receive documented counseling regarding their attendance and 1 point will be deducted from their overall clinical grade.
- b. If 2 additional days are missed (total 8), the student will receive a second formal written warning regarding their position in the Program and 2 additional points will be deducted from their overall clinical grade (total 3).
- c. If 2 more additional days are missed (total 10), the student will receive a final formal written warning regarding their position in the Program and 2 additional points will be deducted from their overall clinical grade (total 5).
- d. If the total amount of days absent exceeds 10, then the student will be dismissed from the Program if any additional absences occur. Students will be evaluated on an individual basis as to the circumstances causing the absenteeism.

Eighteen-month programs:

- a. If the 9 allotted PDO days are exhausted, the student will receive documented counseling regarding their attendance and 1 point will be deducted from their overall clinical grade.
 - b. If 2 additional days are missed (total 11), the student will receive a second formal written warning regarding their position in the Program and 2 additional points will be deducted from their overall clinical grade (total 3).
 - c. If 2 more additional days are missed (total 13), the student will receive a final formal written warning regarding their position in the Program and 2 additional points will be deducted from their overall clinical grade (total 5).
 - d. If the total amount of days absent exceeds 13, then the student will be dismissed from the Program if any additional absences occur. Students will be evaluated on an individual basis as to the circumstances causing the absenteeism.
2. In the event that a student exceeds their allotted PDO days, their clinical education will be extended beyond graduation so that all clinical requirements can be satisfied. However, the clinical education process cannot be extended beyond 5 days after graduation. All absences over the allotted PDO days will be considered as unexcused absences and will result in documentation of unsatisfactory attendance on the final transcript.
 3. In accordance with the Standards of an Accredited Educational Program in Radiologic Sciences, with regard to the maximum hours of clinical and didactic instruction, students will not be permitted to make-up their excessive missed time by extending their hours in clinic on a daily basis.

Unexcused absences

Unexcused absences are classified as the following:

1. Leaving the facility grounds without a program official's permission.
2. Leaving your assigned clinical area without program officials or a staff technologist's permission.
3. Failure to notify program officials prior to your assigned shift of an unscheduled absence.
4. Absences that occur as a result of disciplinary action (e.g. suspension) or those in excess of the allotted 6 PDO days for twelve month programs or 9 PDO days for eighteen month programs.

In the event that a student incurs an unexcused absence, the Disciplinary Action policy will be implemented. It is mandatory for all students to make-up, after graduation, any time missed as a result of an unexcused absence so that all clinical requirements can be satisfied. As with the excessive absenteeism policy, the clinical education process cannot be extended beyond 5 days after graduation for unexcused absences.

Tardiness

Students are required to be in their assigned clinical or didactic area and fully prepared to begin the daily clinical assignments prior to or by their designated starting time. Students should be aware that falsifying attendance records is grounds for immediate dismissal.

Tardiness is subject to the following guidelines and provisions:

- a. Tardiness is considered as any arrival time past the designated start of the student's shift.
Example: if your shift begins at 7:00am, you would be considered tardy at 7:01am.
- b. Tardiness beyond 30 minutes will result in the student being charged 0.5 days (4 hours) of PDO.
- c. Failure to notify program officials 1 hour beyond the designated time of arrival will result in the student being charged 1 day (8 hours) of PDO, marked as an unscheduled absence, and will result in a written warning.
- d. Excessive tardiness will not be tolerated and will result in a reduction in Clinical Points which will negatively affect the student clinical grade. Continued abuse will additionally result in disciplinary action and will result in documentation of "unsatisfactory attendance" on the final transcript.
- e. Exceptions to this policy will be at the program official's discretion and will be limited to unforeseen events.

Tardiness will be governed by the following limits and corresponding corrective actions:

Twelve-month programs:

- a. Upon the occurrence of three incidences of tardiness, the student will be issued a verbal warning and 1 point will be deducted from their clinical grade.
- b. Upon the occurrence of three additional incidences of tardiness (total of 6), the student will be issued a formal written warning and 2 additional points will be deducted from their clinical grade (total 3).
- c. Upon the occurrence of three additional incidences of tardiness (total of 9), the student will be issued a second formal written warning and 2 additional points will be deducted from their clinical grade (total 5). At this level, the student's attendance will also be marked as "unsatisfactory" on their final grade transcript.
- d. Upon the occurrence of one additional incident of tardiness (total of 10), the student will be issued a third formal written warning which will result in their subsequent dismissal from the program.

Eighteen-month programs:

- a. Upon the occurrence of three incidences of tardiness, the student will be issued a verbal warning and 1 point will be deducted from their clinical grade.
- b. Upon the occurrence of three additional incidences of tardiness (total of 6), the student will be issued a formal written warning and 2 additional points will be deducted from their clinical grade (3 total).
- c. Upon the occurrence of three additional incidences of tardiness (total of 9), the student will be issued a second formal written warning and 2 additional points will be deducted from their clinical grade (5 total). At this level, the student's attendance will also be marked as "unsatisfactory" on their final grade transcript.
- d. Upon the occurrence of three additional incidences of tardiness (total of 12), the student will be issued a third formal written warning which will result in their subsequent dismissal from the program.

Funeral Leave

Students will be given a maximum of three (3) days excused absence for deaths in their immediate family. Immediate family shall include: husband, wife, child, mother, father, brother, sister, mother-in-law, father-in-law, and grandparents. Exceptions to this policy may be granted only by the Program Director.

Students needing to utilize funeral leave will be required to submit a Leave Request form in the Trajecsys Report System and notify a program official of submission as soon as possible, prior to being absent.

Military Leave

West Virginia University Hospitals supports the Military Services of the Government of the United States and provides the following provisions for students serving in the Military Reserves during their enrollment in the program.

- a. Students serving in any branch of the U.S. Military Reserves are allotted 2 weeks (10 days) of leave per academic year to fulfill their required military commitment. Students that miss additional time (>10 days) due to military service will be required to utilize personal leave or arrange an acceptable time frame in which to make-up the time missed so that the program's clinical requirements can be fulfilled. Make-up time is subject to the Education Coordinator's discretion and subsequent approval.
- b. Students are responsible for all didactic and clinical course materials presented during their absences related to military service.
- c. In the event that a student is called-up to active military duty, the program will reserve a position for that student so that they can be re-enrolled upon the completion of their active duty assignment.

Vacation and Holidays

Twelve-month programs:

Students are granted three (3) weeks of vacation during their 12 month enrollment in the Program. Vacations are scheduled as two (2) weeks over Christmas/New Year's and one week in the spring. Program officials reserve the right to alter vacation dates.

Students are granted seven (7) holidays per year which include the following:

**New Year's Day
Memorial Day
Independence Day (July 4th)**

**Thanksgiving AND Friday after Thanksgiving
Labor Day
Christmas**

Eighteen-month programs:

Students are granted one (1) week of vacation during each semester enrolled in the Program. Vacations are scheduled as two (2) weeks over Christmas/New Year's, one (1) week in June and the final week of vacation being held in the fall. The final week in the fall is determined by the education coordinator. Program officials reserve the right to alter vacation dates.

Students are granted seven (7) holidays per year which include the following:

New Year's Day

Memorial Day

Independence Day (July 4th)

Thanksgiving AND Friday after Thanksgiving

Labor Day

Christmas

Attendance Documentation

Students are required to document their attendance by using the Trajecsyst Report System.

Using PDO or Compensatory Time:

Students desiring to use PDO or Compensatory Time will be required to submit a Leave Request form in the Trajecsyst Report System and notify a program official of submission by the end of their shift at least one (1) day prior to the requested time off. The exact number of hours to be taken must be marked, appropriate designation must be selected (PDO, comp, military, medical, funeral), and student must provide time of day they wish to use their time if not a whole day (i.e. 2 hours PDO, 2pm-4pm, leaving early). A comment box will be provided on the leave request form for further information, if necessary.

Interview Day:

Students desiring to use the one allotted Interview day will be required to submit a Leave Request form in Trajecsyst by the end of their shift at least one (1) day prior to the interview date. The student will also be required to complete necessary forms which can be located and printed from the "Documents" section of Trajecsyst. These forms must be signed by a member of the interview committee and returned to the Program Director the next school day immediately following the interview. If the signed document is not returned, the absence will be considered unexcused and PDO will be taken. If additional interview days are needed, PDO must be used.

Policy Enforcement:

Accurate evaluation and interpretation of student attendance can only be accomplished if students are methodical and precise in their documentation. For this reason, the following guidelines have been established and will be strictly enforced.

1. Each student must clock in and clock out in the Trajecsyst Report System to document daily attendance times upon their arrival and departure of clinical duties.
2. Students that fail to document accurately and timely will be counted absent until they notify the designated Program official. All time not accounted for (missed documentation) will be deducted from the student's PDO balance and disciplinary action may be enforced in accordance with the excessive absenteeism policy.
3. Logging attendance must be performed on an approved hospital computer. Logging attendance with a mobile device is unauthorized and will be considered falsification of attendance documentation unless previously approved by a program official under special circumstances. Falsification of attendance documentation is grounds for immediate dismissal from the program in accordance with the disciplinary action policy.
4. Time exceptions will be considered unauthorized unless approved by a program official under special circumstances.

5. Any student failing to properly utilize the attendance system (failing to clock in and clock out in Trajecsys, failing to comment on early dismissals, etc.) will be subject to the following:

Twelve-month programs:

- a. Upon the occurrence of three incidences of failing to log attendance, the student will be issued an oral warning and 1 point will be deducted from their clinical grade.
- b. Upon the occurrence of three additional incidences of failing to log attendance (total of 6), the student will be issued a formal written warning and 2 additional points will be deducted from their clinical grade (total 3).
- c. Upon the occurrence of three additional incidences of failing to log attendance (total of 9), the student will be issued a second formal written warning and 2 additional points will be deducted from their clinical grade (total 5). At this level, the student's attendance will also be marked as "unsatisfactory" on their final grade transcript.
- d. Upon the occurrence of one additional incident of failing to log attendance (total of 10), the student will be issued a third formal written warning which will result in their subsequent dismissal from the program.

Eighteen-month programs:

- a. Upon the occurrence of three incidences of failing to log attendance, the student will be issued an oral warning and 1 point will be deducted from their clinical grade.
- b. Upon the occurrence of three additional incidences of failing to log attendance (total of 6), the student will be issued a formal written warning and 2 additional points will be deducted from their clinical grade (3 total).
- c. Upon the occurrence of three additional incidences of failing to log attendance (total of 9), the student will be issued a second formal written warning and 2 additional points will be deducted from their clinical grade (5 total). At this level, the student's attendance will also be marked as "unsatisfactory" on their final grade transcript.
- d. Upon the occurrence of three additional incidences of failing to log attendance (total of 12), the student will be issued a third formal written warning which will result in their subsequent dismissal from the program.

The Program Director has the discretion to make changes to this policy at any time based on the situation.

Attendance Documentation Policy

The Trajecsyst Report System

Students are required to document their attendance by clocking in and out on the TRAJESYS system **on a hospital computer**. This system is an electronic based program that contains the student's competency forms, evaluation forms and attendance records to provide program officials with a method by which to regulate student attendance as they rotate through their various clinical and didactic assignments. A detailed description of the students' attendance is available at any time by logging into the TRAJESYS system. The attendance log documents month, day, year, and the location of each clock function. These Attendance forms are located in the Trajecsyst Electronic site for each student. At graduation, a copy of the clock hours for each student is placed into the student's permanent file located in the Program Director's Office. No student will work, didactic or clinical combined, more than 40 hours a week.

1. Upon reporting to the Hospital for their assigned shift, students will clock-in on the TRAJESYS system. All student time transactions must take place on a computer located within the respective WVUH HVI Department. **Clocking in or out on a personal computer or cell phone is not permitted.**
2. Upon leaving the Hospital after their assigned shift, students will clock-out on the TRAJESYS system. All student time transactions must take place on a computer located within the respective WVUH HVI Department. **Clocking in or out on a personal computer or cell phone is not permitted.**

Using Personal Time Off or Compensatory Time:

Students wishing to take PTO or Compensatory Time will be required to submit a Leave Request Form to a Program official prior to the date or time of their absence. The date and exact amount of time that student will be absent must be included. PTO will only be accepted in increments of 1 hour. Compensatory Time will only be accepted in increments of 4 hours.

Policy Enforcement:

Accurate evaluation and interpretation of student attendance can only be accomplished if students are methodical and precise in their clocking procedures. For this reason, the following guidelines have been established and will be strictly enforced.

1. Each student must clock-in and out with their individual username and password. Students are not permitted to clock in or out for each other. Students are issued ID usernames and Passwords for clocking procedures.
2. Students that fail to clock-in will be counted absent until they subsequently clock-in for

that day. All time not accounted for (missed documentation) will be deducted from the student's personal time off balance and disciplinary action may be enforced in accordance with the excessive absenteeism policy.

3. Logging attendance must be performed on an approved hospital computer within the Heart and Vascular Institute. Logging attendance with a mobile device is unauthorized and will be considered falsification of attendance documentation unless approved by a program official under special circumstances. Falsification of attendance documentation is grounds for immediate dismissal from the program in accordance with the disciplinary action policy.
4. Time exceptions will be considered unauthorized unless approved by a program official under special circumstances.
5. Any student failing to properly utilize the attendance system (failing to clock in and clock out on Trajecsys, failing to provide comment on early dismissals, etc.) will be subject to the following:
 - a. Upon the occurrence of three incidences of failing to log attendance, the student will be issued an oral warning and 1 percentage point will be deducted from their final grade.
 - b. Upon the occurrence of three additional incidences of failing to log attendance (total of 6), the student will be issued a formal written warning and 2 additional percentage points will be deducted from their clinical grade (total 3).
 - c. Upon the occurrence of three additional incidences of failing to log attendance (total of 9), the student will be issued a second formal written warning and 2 additional percentage points will be deducted from their clinical grade (total 5). At this level, the student's attendance will also be marked as "unsatisfactory" on their final grade transcript.
 - d. Upon the occurrence of one additional incident of failing to log attendance (total of 10), the student will be issued a third formal written warning which will result in their subsequent dismissal from the program.

The Program Director has the discretion to make changes to this policy at any time based on the situation.

Trajecsys Report System/ Electronic Clinical Handbook Policy

The Trajecsys Report System:

The West Virginia University Hospitals Echocardiography Program implemented the use of the Trajecsys Report System™. This system is an electronic based program that contains the student's clinical log, competency forms, proficiency forms, evaluation forms, and time record reports to monitor attendance.

This system has replaced the traditional paper clinical handbook. With regard to students utilizing this system, there is a one-time fee of \$100 per year which is paid directly to Trajecsys

Refer to the Trajecsys **Student Registration Document** for detailed instructions.

This fee is paid by doing the following:

- Access their website: <http://www.trajecsys.com/payments.htm>
- Each student will need to complete the online form and then click the "BuyNow" button. This will re-direct them to PayPal where the payment will be submitted.

Note: Students do not have to have a PayPal account to use this. When the Program Director receives notification of payment from Trajecsys, the Director will update Trajecsys.

Regardless of the timing of payment, an incoming student will not be active in the Trajecsys Report System until July 1st.

All Trajecsys data is formatted into report for both students and educational staff to view and utilize as needed.

Trajecsyst Student Registration

All students are required to purchase the Trajecsyst electronic clinical workbook. This system is used daily to clock in and out, as well as to complete daily log sheets. It includes announcements, clinical schedules, clinical instructor assignments, evaluations and competency exams. Payment is due to Trajecsyst no later than July 1st of the current year.

To complete this process:

1. Access: http://www.trajecsyst.com/programs/add_user.aspx
2. Start filling out the form by typing West Virginia University Hospitals, Inc – Echocardiography as your educational institution. It should pop up as an option once you type so many letters.
3. After filling out your name, it will ask if you are a, “current or new student?”. Check the “Yes” button.
4. Next, select West Virginia.
5. Now you must create a username and password
 - a) Username: You may select anything you like for this
 - b) Password: You may select anything you like for this, but it has to satisfy the Trajecsyst requirements.
6. Fill out the remainder of the form with your phone number, email, etc.
7. Go to <http://www.trajecsyst.com/payments.htm> and make payment of \$100.
8. Watch the Student Help Video Tutorial: <http://www.screencast.com/t/jpdWy5Tms6>
9. Read the entire Student Help Section and watch any videos or tutorials:
<http://www.trajecsyst.com/programs/help.aspx#16>

Should you have any problems during registration, please contact me directly so that I can contact Trajecsyst to resolve any issues.

Hours of Academic and Clinical Education

This program limits clinical and academic education to not more than 40 hours per week. Unless utilizing personal leave or compensatory time, students are required to attend all scheduled clinical and didactic hours.

Students will attend clinical and academic course work during weekdays only. Students will not be scheduled to clinical rotations on evening shift (second shift), weekends, or designated student holidays.

Routine educational assignments will require the student to be in attendance Monday through Friday, hours may vary from 7:00am-3:30pm. The hours may vary slightly to accommodate a student's attendance to a procedure during the "special/structural" clinical rotation, but will never be outside of the hours 6:00 am – 4:30 pm. Students will be assigned to a qualified Cardiac Sonographer each day/week, which is subject to change due to staffing, schedule changes and patient or department needs. The student will stay with the assigned Sonographer for the entirety of their day to include the various types of examinations, pathology or procedures that the Sonographer encounters.

The student will only be required to attend a total of 8-hours per day. Compensatory time off will be given in the event a student exceeds the 40-hour week.

Total Program Clock Hours

Course Number	Course Title	Clock Hrs / Credit(s)
ECHO 100	Ultrasound Physics and Instrumentations	36 hours / 2 credits
ECHO 110	Physics Board Review	15 hours / 1 credit
ECHO 300	Introduction to Echocardiography	42 hours / 2 credits
ECHO 300	Scan Lab	42 hours / 2 credits
ECHO 310	Echocardiography I	42 hours / 2 credits
ECHO 320	Echocardiography Applications I	783 hours / 13 credits
ECHO 330	Echocardiography II	60 hours / 4 credits
ECHO 340	Echocardiography Applications II	785 hours / 13 credits
ECHO 350	Case Review	15 hours / 1 credit
ECHO 360	Intro. To Congenital Heart Disease	36 hours / 2 credits
ECHO 370	ARDMS Board Review	24 hours / 1 credits
Total Didactic		312 hours
Total Clinical		1568 hours
Total Program Hours		1880 hours

**Semester I Total Clock
Hours**

Course Number	Course Title	Clock Hrs / Credit(s)
ECHO 100	Ultrasound Physics and Instrumentations	36 hours / 2 credits
ECHO 110	Physics Board Review	15 hours / 1 credit
ECHO 300	Introduction to Echocardiography	42 hours / 2 credits
ECHO 300	Scan Lab	42 hours / 2 credits
ECHO 310	Echocardiography I	42 hours / 2 credits
ECHO 320	Echocardiography Applications I	783 hours / 13 credits
Total Didactic		177 hours
Total Clinical		783 hours
Total Program Hours		1880 hours

Semester II Total Clock
Hours

Course Number	Course Title	Clock Hrs / Credit(s)
ECHO 330	Echocardiography II	60 hours / 4 credits
ECHO 340	Echocardiography Applications II	785 hours / 13 credits
ECHO 350	Case Review	15 hours / 1 credit
ECHO 360	Intro. To Congenital Heart Disease	36 hours / 2 credits
ECHO 370	ARDMS Board Review	24 hours / 1 credits
Total Didactic		135 hours
Total Clinical		785 hours
Total Program Hours		1880 hours

Adult Echocardiography: Course Descriptions

ECHO 100

Ultrasound Physics and Instrumentation

36 clock hours / 2 credits (Semester I)

A study of the physics and instrumentation principles essential to Ultrasound. Topics include physical principles; transducers and sound beams; real time imaging; pulsed imaging; display types; Doppler; hemodynamics; artifacts; bioeffects; quality assurance; and new technologies. The concepts covered are correlated to the operating of the ultrasound system as a Sonographer.

ECHO 110_

Physics Board Review

15 clock hours / 1 credit (Semester I)

This course will serve as a review of the Ultrasound Physics and Instrumentation curriculum in order to prepare for the Sonography Principles and Instruments Physics Exam.

ECHO 300

Introduction to Echocardiography

42 clock hours / 2 credits (Semester I)

Orientation to the Echocardiography Program is conducted, which includes various orientation activities (Lift Training, EPIC training, patient care & safety, IV and vitals training, Echo Lab orientation, etc). The anatomy and physiology of the heart are reviewed extensively. The basic elements of a normal echocardiogram, standard measurements, scanning/imaging planes and positioning are presented.

ECHO 300

Scan Lab

42 clock hours / 2 credits (Semester I)

Basic Echocardiography skills are introduced and practiced in a hands-on lab setting to prepare the student for performing an examination on a patient. The anatomy and physiology of the heart are reviewed extensively as it is view on an ultrasound system. The basic elements of a normal echocardiogram, standard measurements, scanning/imaging planes and positioning are demonstrated and practiced repetitively with the assistance of the Instructor.

ECHO 310

Echocardiography I

42 clock hours / 2 credits (Semester I)

This course is for students specializing in Adult Echocardiography. Abnormal cardiac anatomy and physiology will be studied as it pertains to different pathology/disease processes. The Echocardiographic findings, M-mode, two-dimensional, color flow Doppler, pulsed wave Doppler and continuous wave Doppler, will be correlated to specific pathology. Each topics covered will discuss, in detail, what is expected of a Sonographer for each textbook diagnosis and/or pathology found.

ECHO 320

Echocardiography Applications I

783 hours / 13 credits (Semester I)

This course is designed to offer the student a first hands-on clinical experience. In the clinical setting, the emphasis is placed on familiarizing the student with ultrasound equipment and controls, transducer position relative to different patient body habitus, scanning techniques, protocols and patient care procedures. This clinical course enables students to scan patients to develop the skills essential to an Echocardiographer.

ECHO 330

Echocardiography II

60 clock hours / 4 credits (Semester II)

This course will outline additional types of pathology and disease processes that potentially effect the heart. Echocardiographic findings associated with each lesion as well as exam specific techniques will be discussed. Advanced techniques, procedures and structural heart interventions will be covered. Students will research a new technology in the field and present their analysis.

ECHO 340

Echocardiography Applications II

785 hours / 13 credits (Semester II)

This course is to be taken after successful completion of Clinical Experience I as outlined by the Echocardiography Handbook. Hands-on clinical training aimed to progressively gain experience to advance the students' skills to independently perform a complete echocardiogram. This clinical rotation will also include focused time paired with the Sonographer staffing structural interventions, procedures, cardiac catheterizations, stress echocardiograms and transesophageal echocardiograms.

ECHO 350

Case Review

15 clock hours / 1 credit (Semester II)

This course consists of reviewing unique and/or interesting echocardiograms that the students have encountered during their clinical experience within the program. While reviewing these cases, the Instructor will aid the students in critiquing by evaluating the studies in regards to optimization and ultrasound physics principles. The student will select one of their most interesting cases to present formally. Teaching cases will also be presented for pathology review and testing.

ECHO 360

Introduction to Congenital Heart Disease

36 clock hours / 2 credits (Semester II)

This course will provide a brief overview of common congenital heart defects, complex heart disease, and surgical/palliative procedures. This course will discuss the echocardiographic assessment of patient's with congenital heart disease. In order to compliment this didactic course, students will observe in the WVU Children's Pediatric Echocardiography Lab if staffing permits.

ECHO 370

ARDMS Board Review

24 clock hours / 1 credit (Semester II)

The final course will serve as a review of the Echocardiography Program curriculum in order to prepare for the ARDMS Adult Echocardiography specialty examination.

Adult Echocardiography: Sample Course Schedule

This Echocardiography Program is structured as a full-time, 40 hour per week training program. Didactic and clinical instruction will be scheduled Monday through Friday between the hours of 7am-3:30pm. The Education Coordinator reserves the right to adapt and make changes to the schedule throughout the year for any reason.

Semester I

Mandatory Orientation 1st week of July	TBD
Introduction to Echocardiography July-August	T, W, Th 9:00am-11:00 am
Introduction to Echocardiography Scan Lab July-August	T, Th 1:30pm-3:30pm
Ultrasound Physics and Instrumentation August-October	T, Th 9:30am-11:00 am
Physics Board Review October - November	T, Th 12:30pm- 3:30pm
Echocardiography I November-December	T, W, TH 9:00 am -11:00 am
Echocardiography Applications I September-December	All hours between 7am-3:30pm when students are not scheduled didactic course

Semester II

Echocardiography I January-March	T, W, Th 9:00 am – 11:00 am
Case Review March - April	T, W, Th 10:00 am – 11:00am
Intro to Congenital Heart Disease March - April	T, W, Th 8:00 am – 10:00 am
ARDMS Board Review May	T, Th 12:30 pm – 3:30pm
Echocardiography Applications II January - July	All hours between 7am-3:30pm when students are not scheduled didactic course

Textbook Ordering and Purchasing

Textbooks are selected based on recommendations from the Education Coordinator. The following sources are utilized in textbook evaluation and selection.

Curriculum Guide of Sonography Programs
Publisher Advertisements
Educational Seminars

All textbooks listed are mandatory.

Please contact the Education Coordinator for guidance on purchasing.

Adult Echocardiography: Required Textbooks

- 1) Understanding Ultrasound Physics
Sidney K. Edelman; 4th edition
- 2) Echocardiography...From a Sonographer's Perspective
Susan King DeWitt; The Notebook 7

Course Lecture Session Make-Up

The program officials and instructors will abide by the following procedure for permitting students to make-up course work missed as a result of being absent from a scheduled lecture session. This policy serves to eliminate, as much as possible, any potential advantage that a student may achieve by being absent from a scheduled lecture session and thereby obtaining a greater amount of study and/or preparation time, for the scheduled activities of the class, than those students in attendance.

1. The student is solely responsible for the lecture material covered and for making up any examinations, quizzes, homework assignments, etc. which occurred during their absence from the lecture session.
2. All examinations and/or quizzes must be made up on the student's first regular scheduled day of attendance (Monday thru Friday) following their absence from the lecture session.
3. Assignments will have strict deadlines and will be due by 7 am the day of class. Failure to meet the deadline may result in a zero for the assignment.

The student must follow the following procedure:

- a. Contact the course instructor by 7 am on the day of your return and inform the instructor that you are presenting yourself to make-up the missed examination and/or quiz.
 - b. In the event that the course instructor is not available, contact the program director or program clinical coordinator immediately and inform him/her to this affect.
 - c. Instructors may submit the examination and/or quiz to a program official who will proctor the make-up session for the instructor. Instructors who anticipate that they will not be available for the make-up session must arrange in advance for the program director and/or clinical instructor to proctor the session.
4. Failure of the student to follow the aforementioned make-up guidelines imposes a mandatory requirement upon the instructor to record a percentage grade of zero for the examination and/or quiz.

Clinical Education Procedures & Standards Policy

The WVUH Echocardiography Program will operate according to the standards of the Joint Review Committee on Education in Diagnostic Medical Sonography and the Commission on Accreditation of Allied Health Programs. The Echocardiography program assumes the responsibility to provide each student with a volume and variety of cardiac ultrasound procedures, equipment and personnel available for educational purposes. In compliance with the JRC-DMS Standards, the number of students assigned to each clinical instructor/staff sonographer will not exceed a one-to-one ratio.

Procedures

Students must maintain a professional attitude, appropriate behavior, work ethic, uniforms and appearance at all times. This is a fundamental expectation of the Echocardiography profession, as well as the education program. Each student is expected to be at their clinical site in proper uniform and ready to image a patient at the time their clinical assignment begins.

Clinical Education

The clinical education component of the program requires students to demonstrate a level of competency in clinical activities identified in this document. Demonstration of clinical competence is defined as the program director or clinical instructor observing the student perform all aspects of the procedure in an independent, consistent, and effective manner. All procedures must be performed on patients or equipment as applicable with the exception of the following being simulated: Stress Echocardiography – Exercise, Stress Echocardiography – Pharmacologic, Transthoracic Enhanced Echocardiogram

Students must achieve competency status in the following

- Parasternal Views (Long and Short Axis)
- Apical Views (4,5,2, and 3 chamber)
- Subcostal
- Suprasternal Notch
- Transthoracic Echocardiogram with Agitated Saline
- Transthoracic Echocardiogram with Contrast Enhanced agent
- Complete Transthoracic Echocardiogram – Normal
- Systolic dysfunction
- Diastolic dysfunction
- Aortic valve or root pathology
- Mitral valve pathology
- Right heart pathology
- Cardiomyopathy
- Pericardial pathology
- Prosthetic valve – Mitral valve

- Prosthetic valve – Aortic valve
- Coronary artery disease
- Stress Echocardiogram – Exercise (Observed)
- Stress Echocardiogram – Pharmacologic (Observed)
- Routine Transesophageal (Observed)
- Structural Heart TEE (Observed)

All competencies must be achieved by the first Friday in June.

Competency Completion Timeline

It is the student's responsibility to ensure the required competencies have been completed by the end of each semester. The student will not be able to move forward with second semester competencies until all first semester competencies have been successfully achieved.

The above JRC-DMS requirements are mandatory graduation requirements. Students not in compliance are subject to dismissal from the program in accordance with the Clinical Standards Policy.

Competency Schedule – Semester I (Fall)

All items listed below must be completed by the second Friday in December. Failure to comply with the deadline will result in a "0" score for any item(s) incomplete. This schedule is based on WVUH requirements.

1. Parasternal Views (Long and Short Axis)
2. Apical Views (4,5,2, and 3 chamber)
3. Subcostal
4. Suprasternal Notch
5. Transthoracic Echocardiogram with Agitated Saline
6. Transthoracic Echocardiogram with Contrast Enhanced agent

Competency Schedule – Semester II (Spring)

1. Complete Transthoracic Echocardiogram – Normal
2. Systolic dysfunction
3. Diastolic dysfunction
4. Aortic valve or root pathology
5. Mitral valve pathology
6. Right heart pathology
7. Cardiomyopathy
8. Pericardial pathology
9. Prosthetic valve – Mitral valve

10. Prosthetic valve – Aortic valve
11. Coronary artery disease
12. Stress Echocardiogram – Exercise (Observed)
13. Stress Echocardiogram – Pharmacologic (Observed)
14. Routine Transesophageal (Observed)
15. Structural Heart TEE (Observed)

Clinical Standards

The Echocardiography Education Program recognizes that the student's clinical performance is a valid indicator of professional progress and achievement. The students are required to achieve and maintain competency status in Echocardiography Applications I and II. This policy serves to identify those standards and define the method by which the clinical grade is formulated.

This program's clinical education provides the student with the necessary clinical background involving: manipulation of equipment, handling contrast agents, appropriate patient care skills, quality assurance procedures, transthoracic procedures, transesophageal procedures, and stress echocardiography procedures. These clinical standards are designed to create a bridge between all academic courses with the clinical component. All areas of these basic skills must be mastered before the student can successfully complete the program and be eligible to be certified by ARDMS or CCI.

Clinical Grade Standard

Each student is required to achieve a minimum overall clinical grade of 86% at the end of each semester in order to successfully complete the clinical education component. Due to the progressive nature of the clinical education component, no provisions are provided for repeating a clinical level. Each clinical level must be completed before advancing to the subsequent semester; therefore, students who fail to achieve an 86% at the end of each semester will be dismissed from the program. It is the student's responsibility to maintain awareness of their clinical progress at all times.

Clinical Grading Scale

The following grading scale will be utilized:

<u>Percentage Grade</u>	<u>Letter Grade</u>
100%-93%	A
92%-86%	B
85%-78%	C
77%-70%	D
<70%	F

Clinical Grade Calculation

The student's clinical grade consists of several components that assure a comprehensive evaluation of clinical performance. The following components and weighted averages are utilized:

<u>Component</u>	<u>Weighted Average Semester I</u>
Weekly Performance Evaluations	20%
Scan Lab	20%
Competency Exams	60%

<u>Component</u>	<u>Weighted Average Semester II</u>
Weekly Performance Evaluations	20%
Competency Exams	80%

Each clinical grading component and related forms are included and explained in the student Clinical Handbook for each performance level.



Imaging Science Education Programs
Echocardiography

West Virginia University Hospitals
Medical Center Drive
Morgantown, WV 26506

Scan Lab Assessments, Competency Exams & Proficiencies

Student: _____

Course/Semester: _____

I certify that the examination numbers and signatures attached are accurate and may be verified by review of my Trajecsyst Clinical Log records, the PACS imaging system and/or clinical instructor(s). I have personally scanned, either assisting or completing the examinations indicated.

Student Signature

Date

Education Coordinator/Reviewer Signature

Master List of Adult Echocardiography Competencies

Semester 1

- Parasternal Views (Long and Short Axis)
- Apical Views (4,5,2, and 3 chamber)
- Subcostal
- Suprasternal Notch
- Transthoracic Echocardiogram with Agitated Saline
- Transthoracic Echocardiogram with Contrast Enhanced agent

Semester 2

- Complete Transthoracic Echocardiogram – Normal
- Systolic dysfunction
- Diastolic dysfunction
- Aortic valve or root pathology
- Mitral valve pathology
- Right heart pathology
- Cardiomyopathy
- Pericardial pathology
- Prosthetic valve – Mitral valve
- Prosthetic valve – Aortic valve
- Coronary artery disease
- Stress Echocardiogram – Exercise (Observed)
- Stress Echocardiogram – Pharmacologic (Observed)
- Routine Transesophageal (Observed)
- Structural Heart TEE (Observed)

Master List of Adult Echocardiography Scan Lab Assessments

Semester 1

- Parasternal Long and Short Axis Assessment #1
- Parasternal Long and Short Axis Assessment #2
- Apical window Assessment #1
- Apical window Assessment #2
- Subcostal window Assessment #1
- Subcostal window Assessment #2
- Suprasternal notch Assessment #1
- Suprasternal notch Assessment #2

Master List of Pediatric Echocardiography Competencies

- Complete transthoracic echocardiogram-Normal
- Patent foramen ovale or atrial septal defect
- Ventricular septal defect
- Patent ductus arteriosus
- Transposition of the great arteries (repaired or unrepaired)
- Tetralogy of Fallot (repaired or unrepaired)
- Atrioventricular Septal Defect / AV Canal (repaired or unrepaired)
- Left heart structural/valvular disease
- Right heart structural/valvular disease
- Repaired structural heart disease
- Hypoplastic left heart syndrome (unrepaired, BTS, Glenn, Fontan, other palliative procedure)

Direct/Indirect Supervision Policy

This policy serves to identify the current guidelines for clinical supervision of an Echocardiography student in reference to the direct and indirect provisions set forth by the Joint Review Committee.

Supervision Definitions

Direct Supervision:

1. A registered Sonographer (clinical instructor) reviews the order and condition of the patient in relation to the student's level of clinical competence.
2. The clinical instructor is present during the entire study to offer advice and assist the student as needed.
3. The clinical instructor reviews and approves all imaging, measurements and preliminary data prior to cardiologist review.
4. The clinical instructor is present if the study requires imaging enhancement agents, agitated saline or physician communication.

Indirect Supervision:

1. A registered Sonographer (clinical instructor) verifies the student's ability to perform under indirect supervision.
2. The student reviews the patient's diagnosis, order, history, patient condition, and consults with the clinical instructor.
3. The student performs the echocardiogram under indirect supervision.
4. The clinical instructor reviews and approves all images prior to cardiologist review.
5. No provisions are made for performing the following under indirect supervision:
 - Use of imaging enhancement agents
 - Agitated saline study
 - Mobile echocardiograms
 - OR echocardiograms
 - Cath Lab echocardiograms
 - Transesophageal echocardiograms
 - Special procedures

Clinical Supervision

The sonographer is ultimately responsible for the echocardiogram. At no time will a student (unqualified) sonographer perform an examination in lieu of a staff sonographer. A staff sonographer will be responsible for any and all actions of a student under their direct and indirect supervision. The student will perform an imaging study with the assigned Sonographer under direct or indirect supervision according to the following guidelines:

Direct Supervision

A student is required to perform all Echocardiography imaging under direct immediate supervision until they have achieved and documented successful completion of a competency exam for the particular exam.

Indirect Supervision

After achieving and documenting successful completion of a competency under direct supervision, the student may perform that particular exam under indirect supervision.



Imaging Science Education Programs
Echocardiography

Clinical Instructor

A Clinical Instructor is defined as a credentialed sonographer that provides the appropriate clinical supervision and is responsible for completing the student's clinical evaluation. An appropriately credentialed Clinical Instructor may perform competency exams with students.

Clinical Instructor responsibilities include, but are not limited to, providing demonstration of department functions, the imaging process, scanning techniques, instrumentation, normal anatomy, and pathology. Each student will be assigned to a Clinical Instructor for rotation deemed by the Education Coordinator. A Clinical Instructor will observe and practice the following:

- Instruct and assist each student in the accomplishment of required sonographic procedures.
- Support educational program mission and goals.
- Provide feedback on student's clinical performance in order to develop student competence via evaluations and verbal communication.

Communication Channel

Trajecsys Report System is accessible to all Sonographers. Student expectations, evaluations, competency examination and emergency contact information are located within this electronic system. A sonographer can also contact the Educational Coordinator and/or provide comments via Trajecsys.

Clinical Education Make-Up

This policy serves to identify the procedure and criteria for making up clinical education for if absences in excess of the allotted 6 personal day occur. Absences in excess of the 6 days must be made up by the student in order to complete the clinical education component of their education and receive the recommendation of the Education Coordinator to sit for the registry in Adult Echocardiography.

The following guidelines will be utilized by the student to re-establish their good standing in the clinical education component of their education.

1. The student's clinical education will be extended beyond graduation to account for the number of days or hours in excess of the allotted 6 personal leave days, not to exceed 5 days.
2. In all cases, unexcused absences must be made up after graduation and cannot extend beyond 5 days.
3. Other arrangements for clinical education make-up may only be made if the absence(s) fall under the COVID-19 Attendance Addendum Policy No.1.038.

These guidelines will be used by the education program to provide the student with a mechanism to complete their clinical education when the student's attendance has been affected by adverse circumstances (ex: extended illness). Chronic attendance problems will be governed by the Attendance & Disciplinary Action policies.

Clinical Instructor Evaluation

The Staff Clinical Instructor Evaluation provides program officials with a mechanism for the evaluation of quality of the clinical education provided by Staff Clinical Instructors. These evaluations are completed by the Echocardiography students at the mid-term and conclusion of each semester (4 total). The objective of this evaluation process is to identify the strengths and weaknesses of each clinical instructor and to identify potential student / technologist issues.

The evaluation process will be conducted as follows:

A. During the student orientation week, the components of the Staff Clinical Instructor Evaluation form will be explained to the student. After the completion of each semester, each student will be required to complete an evaluation of each Cardiac Sonographers they have rotated with that semester. The student will be instructed to base their evaluation rating on the technologist instruction performance only. The importance of remaining objective in their evaluation criteria will be stressed.

B. The student will rate the instructor from a scale of 1 to 5 in each category on the evaluation form.

Excellent = 5, Good = 4, Satisfactory = 3, Fair = 2, Poor = 1

C. Each student will submit individual clinical instructor evaluations to the Education Coordinator at the end of each semester.

D. The average score produced by each student will be averaged together to produce an overall rating.

E. Evaluations will be retained by the Education Coordinator. At the end of each semester, the Education Coordinator will distribute evaluation results to the Manager of Cardiovascular Services and Director of Cardiac Imaging for use in the annual performance appraisal of each staff technologist relative to their duties as staff clinical instructors.

F. In the event that a technologist receives an evaluation that falls into the “needs improvement or unsatisfactory” category, the Education Coordinator will discuss the evaluation with the student evaluator. If the Clinical Supervisor deems that the evaluation is accurate and the performance of the technologist is detrimental to the clinical education process, the evaluation will be discussed with the Manager of Cardiovascular Services and Director of Cardiac Imaging. If deemed necessary, the technologist will be counseled regarding their clinical instruction performance.

G. In order to maintain the integrity of the evaluation and to allow students to complete the evaluation without fear of retribution, the student’s identification will be kept extremely



Imaging Science Education Programs
Echocardiography

confidential. At no time will the staff clinical instructor be provided with information regarding the identity of the student evaluator. Staff clinical instructors who wish to challenge a student's evaluation may do so by submitting a formal complaint in writing to the Program Director. The Program Director, Manager of Cardiovascular Services and Director of Cardiac Imaging Manager will investigate the complaint and provide feedback to the staff clinical instructor relative to the validity of the student's evaluation.

Pregnancy Policy

It is the policy of the West Virginia University Hospitals Echocardiography Education Program to follow the steps outlined below, and provide three options to our students in the event that pregnancy should occur during the twelve (12) month program.

1. Upon medical verification of her pregnant condition, disclosure of the said condition to program officials is the student's responsibility and is to be initiated voluntarily. Students have the right to refuse disclosure of medical information; however, in the event that a student chooses not to disclose information regarding pregnancy, the student is acknowledging that they are assuming all responsibility for their condition and the potential complications that may arise.
2. Upon notification by the student that a pregnant condition exists, the Education Coordinator will contact the Radiation Safety Officer to assess the student's likeliness of radiation exposure as well as the risks associated with radiation exposure to the fetus. Students working in ultrasound are not exposed to radiation producing equipment, however if the student or Radiation Safety Officer wishes a film badge will be issued to be worn at the level of the pelvis to monitor any possible fetal dose encountered while working in the Department of Radiology.
3. Upon medical verification that a pregnancy exists, and after consultation with the Radiation Safety Officer, the Education Coordinator will offer three options to the student.

Option # 1 – Choose Not to Disclose Information Regarding Pregnant Condition

By choosing this option, the student implies acknowledgement that she has chosen to disregard the recommendations made by the Radiation Safety Officer and the program. In addition, she is assuming responsibility for all potential risks and related complications. No policy or performance exceptions can or will be implemented should the student choose this option.

Option #2 - Leave of Absence during pregnancy. If the student so decides, she may elect to leave the Program under the following requirements:

- a. Upon accepting this option and leave the Program, she must notify the Education Coordinator immediately.
- b. The student shall re-enter at the beginning of the corresponding semester in which she left. (i.e., if the student left mid-way through the second semester she would be required to re-enter the program at the beginning of the second semester the following year).



Imaging Science Education Programs
Echocardiography

- c. All didactic and clinical course work must be completed prior to graduation from the Program

Option # 3 - Remain in Program throughout pregnancy. If the student so decides, she may continue in the Program under the following requirements:

- a. The student shall imply all radiation safety practices as outlined by the Education Coordinator and the Radiation Safety Officer.
 - b. Upon request, an exposure monitoring device will be issued by the Radiation Safety Officer.
 - c. The student shall participate in all scheduled clinical rotation areas as assigned with no special provisions.
- 4. The Education Coordinator shall document the student's decision in regard to the three options described above.
 - 5. The student shall complete and sign a form acknowledging receipt of information and associated documentation in regard to the pregnancy. All documentation shall be entered into the student's permanent personal file.

Graduation Requirements Policy

To be eligible for graduation and receive a Program certificate, the student must satisfy the following requirements:

- Achieve necessary requirements as outlined by the Academic and Clinical Standards policies. This includes all didactic and clinical grades as well as completion of clinical competency exams and proficiencies.
- Achieve proficient use of sonographic imaging equipment and demonstrate knowledge of ultrasound instrumentation, including but not limited to acoustic physics, Two-dimensional imaging, Doppler ultrasound, and other medical imaging principles.
- Maintain satisfactory attendance to all classes and clinical rotations.
- Demonstrate professional demeanor with the ability to communicate effectively with patients and personnel according to professional and ethical principles.
- Provide quality patient care.
- Recognize emergency patient conditions and initiate first aid and/or basic life support procedures.
- Demonstrate knowledge of human physiology, pathology, pathophysiology, and systemic and sectional anatomy.
- Integrate patient history and physical findings to determine appropriate area(s) of interest for obtaining a diagnostic examination.
- Demonstrate knowledge and proficiency in optimal recording and analysis of ultrasound data.
- Demonstrate knowledge and understanding of the interactions of sound and tissue.
- Demonstrate current knowledge related to bio-effects of ultrasound imaging.
- Exercise professional judgment and discretion in obtaining diagnostic information and correlating findings with physicians.
- Demonstrate knowledge and understanding of related imaging, laboratory, and testing procedures and how they contribute to the clinical diagnosis of disease.
- Identify sonographic representation of normal and abnormal anatomy.



Imaging Science Education Programs
Echocardiography

- Apply optimal scanning techniques and imaging for specific areas of interest.
- Actively appreciate the need for continuing education.
- Develop a cooperative teamwork approach with other allied health professionals.
- Meet all financial obligations to the Program and the Institution.

Program Effectiveness / Outcome Assessment Policy

The Imaging Science Education Program in Echocardiography evaluates programmatic effectiveness and performance by projecting and measuring outcomes relative to each academic year. These outcomes serve to provide assurance of successful achievement of the Program's mission and goals. Programmatic goals are developed by evaluating past performance and establishing benchmarks on which to evaluate current performance. In the event a programmatic goal is not met, action will be taken in an attempt to facilitate performance improvement. The basis for these measurement procedures is derived from the Commission as provided by the JRC-DMS. The data collected is presented in the Program Effectiveness / Outcome Assessment Report which is compiled each year.

Quantitative Outcomes:

1. Student Retention / Attrition Rate

Description

Student retention is calculated as the percentage of students who have remained enrolled over the past eighteen month time frame. Attrition is calculated as the percentage of students who resign, withdraw, or are dismissed over the past program length.

Programmatic Goal

Retention = $\geq 80\%$

Attrition = $\leq 20\%$

Data Collection Mechanism

Current enrollment numbers

2. Credentialing Exam (ARDMS) Pass rate

Description

Credentialing Exam pass rate is calculated as the percentage of students each academic year who successfully complete (75% scaled score or greater) the national certifying exam administered by the American Registry of Diagnostic Medical Sonography. The assessment is separated into two categories: 1st attempt pass rates and cumulative pass rate. Cumulative pass rates take into account the total average from 1st and 2nd attempts of a graduating class. The Program also evaluates student performance in each individual section compared to the national averages.

Programmatic Goal

ARDMS Exam Pass rate (1st attempt) $\geq 85\%$

ARDMS Exam Pass rate (cumulative) $\geq 100\%$

Individual Section Scores \geq National average / section

Data Collection Mechanism

Official ARDMS Exam report

3. Employment rate (Job placement rate)

Description

Employment rate is calculated as the percentage of graduating students who obtain employment in diagnostic medical sonography within six months of graduation. The calculation includes all graduates who are seeking employment as their primary endeavor. Students who electively pursue additional education and are not seeking initial employment are not included.

Programmatic Goal

Employment rate $\geq 75\%$

Data Collection Mechanism

Exit Survey

Qualitative Outcomes:

1. Graduate Satisfaction

Description

Graduate satisfaction is measured as the cumulative results of the five principal questions on the Exit Survey, which reflects how the student feels about the quality of education received at WVUH. Graduates rate the program on a 5-point scale (Excellent = 5, Good = 4, Satisfactory = 3, Fair = 2, Poor = 1).

Programmatic Goal

Graduate Satisfaction = Graduates rate program as “Good” (3.0) or higher (cumulative) Return Rate = 50%
Data

Collection Mechanism

Exit Survey

2. Employer Satisfaction

Description

Employer Satisfaction is calculated as the cumulative results of the fifteen performance question on the employer questionnaire component of the Alumni survey. Responses on all returned surveys are summated and averaged. Employers rate the graduates on the following 4-point scale: (1 = excellent, 2 = satisfactory, 3 = needs improvement, 4 = unsatisfactory)

Note: Scale changed in July 2000 to the following: (5 = Excellent, 4 = Above average, 3 = Satisfactory, 2 = Needs improvement, 1 = Unsatisfactory)

Programmatic Goal

Employer Satisfaction ≤ 2.0 (prior to July 2000)

Employer Satisfaction ≥ 3.0 (after July 2000)

Return Rate of $\geq 50\%$

Data Collection Mechanism

Alumni Survey (Employer Questionnaire)

3. Didactic Instructor Performance

Description

At the end of each semester, students are required to complete Instructor Evaluations for all didactic courses. The results on each instructor are compiled and averaged for the academic year. Students rate their instructors on a 5-point scale (Excellent = 5, Good = 4, Satisfactory = 3, Fair = 2, Poor = 1).

Programmatic Goal

Instructor Evaluations = ≥ 3.5 per instructor / year

Data Collection Mechanism

Didactic Instructor Evaluations

4. Clinical Instructor Performance

Description

At the end of each semester, students are required to complete Instructor Evaluations for all clinical instructors they have rotated with. The results on each instructor are compiled and averaged for the academic year. Students rate their instructors on a 5-point scale (Excellent = 5, Good = 4, Satisfactory = 3, Fair = 2, Poor = 1).

Programmatic Goal

Instructor Evaluations = > 3.0 per instructor/year

Data Collection Mechanism

Clinical Instructor Evaluations

Actions for Unmet Criteria:

The aforementioned outcomes provide program officials with a mechanism for evaluating the overall effectiveness of the program. Criteria that is met or satisfied can provide assurance that the mission and goals of the program are being achieved and maintained. In the event that criteria is unmet, program officials will take the following steps to assess the results and implement a performance improvement plan.

Step #1

Review findings / outcomes for accuracy and relevancy.

Step #2

Identify or rule out obvious rational explaining reason for unmet criteria.

Step #3

Identify individual reasons for unmet criteria (academic, clinical, programmatic, or personal).



Imaging Science Education Programs
Echocardiography

Step #4

Contrast and compare data with previous outcomes to identify potential trends.

Step #5

Use data to identify if a causal relationship between unmet criteria and programmatic attributes exists.

Step #6

Develop improvement plan that attempts to address and correct the casual elements of the unmet criteria.

Step #7

Follow-up: Compare with subsequent year's performance to identify potential improvement.

Access or Release of Student Records Policy

The Accreditation Standards for Diagnostic Medical Sonography Education released by the Joint Review Committee on Educational Programs in Diagnostic Medical Sonography requires that records be maintained permanently for all didactic and related courses attempted and/or completed by all students. The student's permanent record file shall contain the following:

1. Admission Documents: application, weighted values calculation sheet, signed acceptance letter, essential performance standards
2. Transcripts and associated records
3. Physical examination reports
4. Counseling records
5. Transcripts of didactic, laboratory and clinical achievement in diagnostic medical sonography
6. Records of attendance, clinical rotation and grades for all courses in diagnostic medical sonography
7. Documented evidence of student clinical competency
8. Copy of certificate from ARRT (R) certification
9. Copy of CPR certification card
10. Copy of Associate's degree

Our program is re-evaluated and re-accredited every seven years. A site-visit team assigned by the Joint Review Committee will re-evaluate the program at the end of the seven year accreditation period. The site visit team will request access to student records to assure that each student's records have been properly maintained. Due to the Family Education Rights and Privacy Act of 1974 also known as the Buckley Amendment, it is necessary that we obtain prior authorization from the student to allow access to the student's personal records. Your signature on the attached Authorization for Access or Release to Student Record Information will provide our program with the aforementioned authorization.

The following provisions will be followed to assure the students privacy:

1. A record of disclosure will be maintained and kept with the educational records of the student whose personally identifiable information was released.
2. This record must identify the parties who obtained the information and the reasons why these parties needed the information.
3. In addition, the party to whom the information was disclosed must not disclose the information to any other party without prior written consent of the student or his or her parents. The information taken from the records may be used by the organization only for the purpose for which the disclosure was made.
4. If the organization does release personally identifiable information for other purposes, it must also maintain a complete record of disclosures.



Imaging Science Education Programs
Echocardiography

Educational Records Release Form

Student/Graduate: _____

Institution, Program or Individual to which records are to be sent:

Address: _____

City, State, Zip: _____

Educational records to be sent: (WVUH can only release **WVUH transcripts** to outside agencies)

1. _____
2. _____
3. _____
4. _____
5. _____

“In accordance with the Family Education Rights and Privacy Act of 1974, my signature below authorizes West Virginia University Hospitals Radiologic Technology Education Programs to release the aforementioned “Educational Records” to the institution(s) and/or individual(s) indicated above.

Student Signature: _____ Date: _____

Program Director: _____ Date Sent: _____

Off-Site Educational Hours Policy

The following policy serves to identify the provisions, requirements and guidelines for the student to be excused from the regular program schedule and attend off-site activities that are deemed related to the Echocardiography program.

Provisions, Requirements and Guidelines:

Students may be granted time to attend events deemed valuable by the Program Director. Each student is responsible for their own transportation and expenses. Travel to and from outside educational opportunities is done on your own recognizance. Neither WVU Hospitals, the Radiology department, nor the Echocardiography Education Program may be held responsible for your safety and well-being.

1. A student must receive prior approval from the Education Coordinator to deem an event eligible for off-site time before attending the event.
2. Each student is expected to provide written documentation of their attendance with contact information from the event host immediately upon returning on-site or the absence will be unexcused.
3. Program hours can be granted, but not limited to, the following educational related opportunities:
 - a. Sonographer Principle and Instrumentation examination that is scheduled during Program hours.
 - i. A student may be granted program hours for travel preceding the date of the scheduled event, if the day of travel falls Monday- Friday and there is documentation of limited testing site availability within 120 miles of West Virginia University Hospital- Ruby, 1 Medical Center Drive Morgantown, WV 26506.
 - ii. A student will only be granted eight hours of time to utilize only on their scheduled testing day (if it falls on a scheduled program day). Any subsequent attempts at formal examinations will not be offered compensatory time.
 - b. Adult Echocardiography specialty examination that is scheduled during Program hours.
 - i. A student may be granted program hours for travel preceding the date of the scheduled event, if the day of travel falls Monday- Friday and there is documentation of limited testing site availability within 120 miles of West Virginia University Hospital- Ruby, 1 Medical Center Drive Morgantown, WV 26506.
 - ii. A student will only be granted eight hours of time to utilize only on their scheduled testing day (if it falls on a scheduled program day).

Any subsequent attempts at formal examinations will not be offered compensatory time.

- c. Off-site educational course, training or conference that is scheduled during Program hours or if attendance to such would exceed the program limits of clinical and academic education hours per week as outlined in Policy No. 2.010 Hours of Academic and Clinical Education Policy.
 - i. A student may be granted program hours for travel preceding the date of the scheduled event, if the location is greater than 120 miles of 1 Medical Center Drive Morgantown, WV 26506.
 - ii. A student will only be granted eight hours of time per day of the event to utilize only during the normal Program hours in which they are absent or during normal Program hours to not exceed more than 40 hours per week.
- ci. Job shadowing and/or touring the Echocardiography Lab at another WVU Medicine location that is scheduled during Program hours.
 - i. A student may also be granted program hours, if the travel occurs during scheduled program hours, for travel time preceding the date of the scheduled event, if the location is greater than 120 miles of 1 Medical Center Drive Morgantown, WV 26506.
 - ii. The location must be at a WVU Medicine facility.
 - iii. Compensatory time awarded for this event will be one hour for every one hour the student is present at the off-site location.
 - iv. Compensatory time awarded for this event cannot exceed eight (8) hours and any subsequent arrangements between the student and the facility is deemed voluntary.
 - v. Voluntary off-site visits should not interfere with Program hours. However, each student has the right to utilize their personal time off to engage in such activities.
- 4. The amount of compensatory time that can be utilized at the discretion of the student cannot exceed eight (8) hours during the entire 12-month period of the program.
 - i. Compensation time earned by the student may not be taken during scheduled didactic course hours.
 - ii. The student must obtain prior approval to utilize compensation time by submitting a Leave Request Form in Trajecs no later than 24 hours prior to the date the student requests to be off.
 - iii. In cases where the student is requesting less than 8 hours off, the Education Coordinator may approve compensation time off on the day of the request.
 - iv. Failure to receive prior approval from the Education Coordinator



Imaging Science Education Programs
Echocardiography

and/or failure to present the approved Leave Request Form in Trajecsyst prior to the time of utilization by the student, will result in an unexcused absence.

- v. The student may not receive approval to utilize compensation time earned via telephone or email unless the following circumstances exist:
 - 1. Severe weather conditions or transportation problems.
 - 2. Student illness where the student has exhausted allotted number of personal leave days.
 - 3. Emergency situation requiring the student's presence.

Without exception, students who are absent during scheduled program hours without notifying the Education Coordinator of their intent to utilize personal time off or without receiving prior approval to attend a program specific off-site educational event and/or utilize compensation time, will be assessed an unexcused absence.

In reference to the aforementioned circumstances, the Program official's professional opinion and judgment will dictate the final decision for approval or non-approval.

Scan Lab Exams Policy

The West Virginia University Hospitals (WVUH) Echocardiography Education Program conducts scanning of students in a controlled laboratory setting under the supervision of the Education Coordinator, Clinical Coordinator, or Clinical Instructor. Scan lab exams are incorporated into the curriculum as a mechanism for developing psychomotor skills and clinical scanning techniques. Volunteer imaging subjects are utilized and may include students and/or other members of the general population. Simulated exams are conducted for educational purposes only and are non-diagnostic. Student participation as an imaging subject is voluntary and is governed by the following:

Procedure

1. During orientation, the Program Director will review this policy and provide students with an informational sheet describing the exam procedure and specifics regarding participation including the anatomical areas generally imaged.
2. The Program director will explain to the students that participation as an imaging subject is strictly on a voluntary basis and that refusal to participate will not affect the student's clinical grade and/or evaluations.
3. Students will be given the opportunity to discuss any concerns, questions, and/or reservations they may have regarding the scanning lab procedures and their potential participation as an imaging student.
4. Students will be asked to complete the attached form reflecting their decision regarding their level of participation. A copy will be retained as part of the student educational record.
5. Students will be advised that during their participation as an imaging subject, should a situation arise in which they feel uncomfortable, they reserve the right decline participation regardless of their indicated choice on the attached authorization form.

Information sheet to be reviewed by volunteer for ultrasound examination

Thank you for considering with participating in this teaching session. The information below is to help you decide whether or not you wish to proceed with the ultrasound.

Why are we doing this learning session?

Ultrasound offers a safe and effective way of seeing what is beneath the skin surface. Ultrasound can show you what lies beneath the examining hand, but the images are not initially easy to interpret for the students. Hence, why the more experience a student receives, the easier these images will be to interpret.

How will the learning experience be organized?

With permission of the volunteer, a diagnostic medical sonography student will begin the scan while the education coordinator is present. The student will be practicing the normal protocol imaging that is required for each organ or study. Please remember that this is a Non-Diagnostic study.

Is it safe?

Ultrasound has been widely used in clinical practice for over 40 years and the consensus is that there is no discomfort or risk associated with it.

It is recognized that some very intensive ultrasound imaging could produce heating in the tissues, which carries a theoretical risk to sensitive tissues, particularly the fetus. Because of this there are strict guidelines that restrict and/or limit the amount of sound power that can be used. Our ultrasound equipment (Philips and/or GE) operates well within/below these guidelines.

In conclusion through research, current data indicates that there are no confirmed biologic effects on patients and their fetuses exposed to the prudent use of ultrasound.

What will volunteer models have to do?

First, read and understand the information sheet and ask any further questions you may have. If you decide to offer yourself as a volunteer model we will ask you to sign the attached consent form. The teaching will concentrate on the heart. The volunteer model would need to remove their clothing articles from the waist up and are provided with a gown and blanket. The ultrasound probe is coupled to the skin using a water-based jelly. This is messy, but colorless, odorless, and washes off easily.

What happens if I change my mind about taking part?

You can withdraw from the teaching as a volunteer model, or from the teaching session.

Will any information about me collected or preserved?

No identifiable information will be collected from volunteer models. If your examination provides a particularly good view that might be useful for teaching we may ask you if we can preserve it in an anonymized form. This will not be done without your consent. Such images will only be used for teaching in the same way.

If in the unlikely event that something is detected which would need preserving in the interests of your own health (see below), this will be done only with your consent.

What happens if something unexpected is found?

On rare occasions, there is an unexpected finding which may require further investigation. If this should occur, this will be made clear to you and we will offer to arrange appropriate medical referral.

Should something unexpected be found, every attempt will be made to ensure that the other members of the student group are not aware of it. However, you should appreciate that this may not be always possible, depending on the circumstances under which the finding is made.

For further information, please contact the Education coordinator at

(304) 598-4000 ext: 79855.

Consent Form for Volunteer Models for Ultrasound Examination

I have read the information sheet which accompanies this consent form. I understand the objectives of the learning exercise, and what is required of me. I acknowledge I have been informed that:

- ☐ My participation in this teaching activity is entirely voluntary.
- ☐ I can request additional information or ask questions at any time.
- ☐ I am free to withdraw from this exercise at any time without any disadvantage.
- ☐ All images acquired and archived will not contain personal identification information.
- ☐ There is no discomfort from the procedure and international consensus is that there is no risk from the procedure.
- ☐ There is no financial compensation for taking part in this teaching session.
- ☐ This is not an official diagnostic test and the images obtained will not be reviewed by a radiologist.
- ☐ No official report of finding will be generated; therefore, the acquired images cannot be used for further medical treatment or diagnosis.
- ☐ I will be informed of any potential abnormal findings identified; however, it will be my responsibility to seek appropriate medical services if required.

By Signing Below:

I agree to take part as a model for the ultrasound examination, and I release WVU Medicine, its affiliates, and their respective directors, officers, employees and agents from any liability for damages, injuries, or diagnostic findings relative to my participation.

Signature_____

Date_____

Printed Name_____