HARRISHEALTH

SCHOOL OF DIAGNOSTIC MEDICAL IMAGING

STUDENT HANDBOOK

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RADIOGRAPHY ACCREDITATION

Harris Health System is accredited by DNV Healthcare Inc.
400 Technecenter Dr. Suite 100
Milfrod, Ohio 45150
513-747-8334 www.dnvaccredtation.com

JOINT REVIEW COMMITTEE ON EDUCATION IN RADIOLOGIC TECHNOLOGY

The Harris Health System School of Diagnostic Medical Imaging/ LBJGH
The program is accredited by Joint Review Committee on Education in Radiologic Technology (JRCERT)

Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182 (312) 704-5300 Email: www.jrcert.org

Certification Agency

THE AMERICAN REGISTRY OF RADIOLOGIC TECHNOLOGISTS®

SONOGRAPHY ACCREDITATION

The Harris Health System School of Diagnostic Medical Imaging is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS)

Commission on Accreditation of Allied Health Education Programs
25400 U.S. Highway 19 North, Suite 158
Clearwater, FL 33763
Phone: 727-210-2350
Fax: 727-210-2354
www.caahep.org

JRC-DMS
6021 University Boulevard
Suite 500
Ellicott City, MD 21043
443-973-3251 jrcdms.org

Certification Agency

INTRODUCTION

The general intent of the student handbook is to establish policies that serve as general guidelines to students of Harris Health System School of Diagnostic Medical Imaging. It was prepared to set forth policies and procedures established to assist in the orientation of medical imaging students. The administration of Harris Health System School of Diagnostic Medical Imaging is governed by the student handbook and the employee handbook.

The understanding of this handbook is the responsibility of the student, and the student must use it as a reference during the entire enrollment period. The handbook is not intended to supersede any state or federal law regulations.

Students are encouraged to submit recommendations, additions, or modifications to the school office. The Handbook Committee will consider all recommendations.

The School reserves the right at any time to modify, delete, or add to any part of this handbook.

POLICY MAKING AND ADMINISTRATION

The policies and direction of the School of Diagnostic Medical Imaging are maintained through advisory and administrative committees. These committees are responsible for determining the program's general philosophy, goals, curriculum, criteria used in the selection process, and for advising the program director as required.
Students are governed by the policies of the School, the policies of the Radiography Department and the policies of Harris Health System.

ADMINISTRATION: FACULTY, STAFF, AND ADVISORS

Cleveland Black, EdD, R.T.(R)(CT)(MR)(ARRT)	Vice President
James Norsworthy, BS, R.T.(R)(ARRT), ARDMS AB, RVT, OB/GYN	Sonography Program Director / Faculty – Advisor
Wilson Phung, BA, R.T.(R)(MR)(ARRT)	Interim Program Director / Clinical Coordinator – Radiology – Advisor
Christina Bonilla, MBA, R.T.(R)(CT)(ARRT)	Education Instructor III / Clinical Coordinator – Radiology – Advisor
Jessica Adger, BASAH, ARDMS, AB, OB/GYN	Education Instructor III / Clinical Coordinator – Sonography – Advisor
Keiana Smith, MHA, R.T.(R)(M)(ARRT)	Education Instructor - Radiology
Yara Abdin, MS, (RDMS)(RVT)	Sr. Instructor - Sonography
Georgette Jones, BSRS, R.T.(R)(ARRT)	Clinical Preceptor
Faye Vance	Senior Operations Manager
Ajana Clayton, MBA, M.Ed.	Senior Learning and Education Development Specialist
Tahara Dupre, MBA, MSM	Senior Program Coordinator
Verghese George, MD	Medical Director – Advisor
Sangene Lokey	Public Advisor
Norma Martinez, AA, R.T.(R)(ARRT)	Supervisor / Clinical Faculty – Radiography Advisor / ACS
Jolie Phan, R.T.(R)(ARRT)	Clinical Faculty – Radiography Advisor / Aldine
Annamma Kuriakose, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / BT
Uma Khadka, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / BT

Janixa Guevara, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / BT
Jacqueline Clark, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / BT
Aimee Duran, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / BT
Tuyet Vu, R.T.(R)(CT)(ARRT)	Clinical Preceptor – Radiography Advisor / BT
Georgette Jones, R.T.(R)(ARRT)	Clinical Faculty – Radiography Advisor / Casa
Diego Nnaji, R.T.(R)(CT)(ARRT)	Clinical Faculty – Radiography Advisor / El Franco Lee
Lorena Delcid, R.T.(R)(ARRT)	Clinical Faculty – Radiography Advisor / Gulfgate
Christina Gallegos, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / LBJ
Dalia Vazquez, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / LBJ
Gwendolyn Alexander, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / LBJ
Karyn Brinkley, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / LBJ
Tony Thomas, R.T.(R)(CT)(MR)(ARRT)	Clinical Preceptor – Radiography Advisor / LBJ
Demetria West, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / MLK
Gracy Koshy, R.T.(R)(ARRT)	Clinical Preceptor – Radiography Advisor / Smith
Vianey Garza, R.T.(R)(ARRT)	Clinical Faculty – Radiography Advisor / Strawberry
Kaimusa Douglas, BAAS, R.T.(R)(M)(ARRT)	Director, Imaging Services, Mammography Program Mgmt
Matthew Owen, R.T.(R)(VI)(ARRT)	Clinical Faculty – Radiography / Sonography IR / BT
Steven Fontenot, R.T.(R)(VI)(ARRT)	Clinical Faculty – Radiography / Sonography IR / BT
Lalitha Valleru, R.T.(R)(ARRT)	Clinical Faculty – Radiography / Sonography IR / LBJ
Ernesto Rodriguez, ARDMS AB, OB/GYN, RVT	Manager / Clinical Faculty – Sonography Advisor / BT
Sangita Doshi, ARDMS OB/GYN	Clinical Faculty – Advisor / BT MFM
James Bedi, ARDMS AB, OB/GYN, RVT, VT	Clinical Faculty – Sonography Advisor / LBJ
Tony Tran, ARDMS,AB,OB/GYN	Clinical Faculty – Advisor / LBJ MFM
Sepanta Shamel, ARDMS AB, BR, OB/GYN	Clinical Faculty – Advisor / Smith Clinic
German Jaime, ARDMS AB, OB/GYN, RVT	Clinical Faculty – Advisor / Smith Clinic

ADMINISTRATIVE COMMITTEE:

- Cleveland Black, Ed.D, R.T.(R)(CT)(MR)(ARRT)
- James Norsworthy, BS, R.T.(R)(ARRT), ARDMS AB, RVT, OB/GYN
- Wilson Phung, BA, R.T.(R)(MR)(ARRT)

Purpose of the Administrative Committee:

The purpose of the administrative committee is to assure the effective organization and operation of the school's selection and admission's process, disciplinary process and overall program success.

WELCOME

Diagnostic Imaging Technologists are healthcare professionals educated in the use of sound waves (sonographers) and ionization radiation (radiographers) who work in a technically advanced environment.

Sonographers and radiographers are exposed to a variety of patients, including the critically ill and injured. Individuals interested in pursuing a career in radiography must possess compassion and the desire to work with advanced technology.

MISSION

Harris Health is a community-focused academic healthcare system dedicated to improving the health of those most in need in Harris County through quality care delivery, coordination of care, and education.

SCHOOL OF DIAGNOSTIC MEDICAL IMAGING MISSION

The mission of the Harris Health System School of Diagnostic Medical Imaging is to educate the next generation of competent entry-level imaging professionals.

PHILOSOPHY

Imaging students are charged by the professional Standards of Ethics to be competent, compassionate, and knowledgeable. At Harris Health System, we recognize the importance of integrating training in the cognitive, psychomotor, and affective domains as a means to this end. We are compelled to practice, promote, and reward excellence and professionalism to adequately prepare graduates to be competitive in the local and national health care arenas.
https://www.arrt.org/pdfs/Governing-Documents/Standards-of-Ethics.pdf
http://www.sdms.org/about/who-we-are/code-of-ethics

Radiography / Sonography Program Goals and Student Learning Outcomes

Goal 1: Students will be clinically competent
Student Learning Outcomes:

- Students will perform entry-level imaging procedures
- Students will demonstrate entry-level patient care skills
- Students will demonstrate knowledge of ALARA

Goal 2: Students will demonstrate professionalism and lifelong learning.
Student Learning Outcomes:

- Students will display professional behavior.
- Students will pursue higher education.

Goal 3: Students will communicate on a professional level.
Student Learning Outcomes:

- Students will demonstrate effective oral communication.
- Students will demonstrate effective written communication.

Goal 4: Students will demonstrate critical thinking skills.
Student Learning Outcomes:

- Students will critique images to determine image quality.
- Students will perform unfamiliar exams with appropriate supervision.

Goal 5: "To prepare competent entry-level general radiographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains."

"To prepare competent entry-level general sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains."

PROGRAM DESCRIPTIONS

Radiography / Sonography Programs

Are hospital-based advanced imaging programs that are 2 years in length and accredited by the Joint Review Committee on Education in Radiologic Technology (www.JRCERT.org) (radiography) and Commission on Accreditation of Allied Health Education Programs (www.caahep.org) (sonography). A new class will commence each July with class space limited not to exceed program capacity. Classroom and clinical education is offered Monday through Friday, 7- 3pm. Didactic Classes are offered at 4800 Fournace. Clinical education is offered at Ben Taub General Hospital, Lyndon B. Johnson General Hospital, and Smith Clinic. Radiography also utilizes 6 other Ambulatory Care Centers.

PROGRAM EVALUATION

The program determines and maintains effectiveness through a broad based and integrated system of evaluation and planning. The program solicits the opinions of communities of interest through surveys which are reviewed and utilized to improve student learning outcomes.
Communities of interest include, but are not limited to:

Students	**Employers**	**Graduates**
Faculty	Clinical Staff	Accrediting agencies (JRCERT, JRCDMS)
		Credentialing agencies (ARRT, ARDMS)

Program Length

The programs are divided into didactic and clinical components.

- The programs begin in July each year
- The programs are divided into six semesters
- The second year of each program begins in June
- The programs end mid-May

Program Schedule (Summer I and II, Fall I and II and Spring I and II semesters)

	Didactic (Class)	**Clinic**
Summer I	Monday – Friday	None
Fall I, Spring I	Monday, Wednesday, Friday	Tuesday, Thursday
Summer II	To be Determined	Monday – Friday
Fall II, Spring II	Tuesday, Thursday	Monday, Wednesday, Friday

Student Evaluation

It is the desire of the school all students successfully complete the course work.
To evaluate each student's progress, evaluation and counseling is an ongoing process throughout the program for both the didactic and clinical education.

Didactic Evaluations

Didactic education is evaluated through

- Written exams
- Lab evaluations
- Assigned activities
- Didactic Capstone (Radiography)

Clinical Evaluations

Clinical education is competency-based. Perfo
is evaluated throughout the program.
Evaluation in clinical education consists of:

- Performance evaluations
- Competency evaluations
- Examination Logs
- Clinical Capstone (Radiography)
- Image evaluations

Grading

Students must receive a minimum of a **"C"** in each course to satisfy graduation requirements. Failing one or more courses will lead to withdrawal from the program. All course grades are

used to determine the student's overall GPA. The following grading system is used throughout the program:

Letter Grade	Numerical Grade	Grade Points
A	94-100	4.0
B	86-93	3.0
C	76-85	2.0
F	Below 76	0.0

Credit Hours

One credit hour equals a minimum course time of:

16 contact hours	semester	= 1 credit hour
2 contact hours	lab/week	= 1 credit hour
8 contact hours	clinical/week	= 1 credit hour

Student Advisement

The students are advised concerning academic and behavioral performance and progress. Strengths and weaknesses are addressed. Students who are not progressing as expected are advised on methods of improving. Advisement occurs on a case-by-case basis after poor didactic/clinical performance.

Tutoring

Tutoring is available to all students in all coursework. Tutoring is scheduled by the course instructor.

Graduation Requirements

A certificate of completion is awarded when all program requirements have been satisfied. To graduate, students must satisfy all program requirements.

All students must:

1. Pass all coursework with a minimum grade of a 'C' (76 or above).
2. Satisfy the requirements of the competency based clinical education plan.
3. Pay tuition and fees in full.
4. Make up all time missed.
5. Satisfy program accreditation and certification requirements.
6. Schedule an exit interview on the last day of enrollment.
7. Return the following:
   - Hospital Identification
   - Radiation Monitor
   - Zero balance from the Harris Health System Imaging School.
8. Radiography only:
   - Complete the program within 150% of the published program length (3 years).
   - Successfully complete clinical and didactic capstone evaluations.
   - Satisfy the terminal competency objectives.
9. Sonography only:
   - Pass the Sonography Principles & Instrumentation (SPI) examination by December 31 of the second year enrollment.

Radiography Capstone

Capstone is a comprehensive examination completed during the senior year consisting of two parts, didactic and clinical.

- Didactic Capstone
  - The didactic capstone is a comprehensive computer-based examination. All students must pass didactic capstone to graduate.
- Clinical Capstone
  - The clinical capstone is a comprehensive assessment in which students demonstrate essential radiographic procedures. All students must pass clinical capstone to graduate.

Sonography Principles & Instrumentation (SPI) Examination

Students are required to register for Sonography Principles & Instrumentation (SPI) examination after the third semester.

- A student must pass the SPI exam before December 31 of their senior year to register for the final review (6th) semester.

Terminal Competencies

Upon completion, the student should be able to perform the following functions and behaviors essential to entry-level medical imaging:

1. Use professional terminology when interacting with health care professionals.
2. Communicate with patients to determine the patients' needs.
3. Interpret requisitions.
4. Modify standard procedures to accommodate for patients who are unwilling or unable to cooperate.
5. Accurately demonstrate knowledge of human structure and function.
6. Demonstrate the proper use of immobilization devices.
7. Demonstrate knowledge of pathology and recognize common disease processes on images.
8. Demonstrate methods of patient identification and accurately perform the procedures requested.
9. Demonstrate methods of patient transfer and good body mechanics.
10. Demonstrate knowledge of methods of disinfection and sterilization.
11. Demonstrate knowledge of standard precautions and various methods of isolation.
12. Accurately monitor vital signs.
13. Recognize emergency patient conditions and initiate first aid and basic life support.
14. Anticipate and provide basic patient care and comfort.
15. Operate imaging equipment, fixed and mobile, and accessory devices.
16. Assist the radiologist or attending physician in performing special procedures.
17. Evaluate the performance of imaging systems; recognize the safe limits of operation and report malfunctions to the supervisor.
18. Demonstrate knowledge of the basic components of the control panel of imaging equipment.
19. Adapt exposure factors to compensate for various patient conditions, equipment, accessories to maintain appropriate image quality.
20. Perform basic mathematical functions.
21. Process images and utilize quality control measures to achieve and maintain acceptable image quality.
22. Evaluate images for optimal image quality (technique, positioning).
23. Exercise independent judgment and discretion in performing medical imaging procedures.

24. Demonstrate knowledge of the established practice standards and recommendations for "*As Low As Reasonably Achievable*" (ALARA).
25. Demonstrate knowledge of the basic functions of the computer.
26. Agree to practice medical imaging according to the *Standards of Ethics*.

Terminal Competencies (Radiography Specific)

1. Differentiate between injectable and non-injectable contrast media and demonstrate knowledge of uses and precautions for common medications used.
2. Demonstrate knowledge of digital imaging equipment.
3. Demonstrate knowledge of the electronics of the x-ray generator to include circuitry and equipment variables.
4. Demonstrate knowledge of the use of image receptors and accessories and compensate for any changes.
5. Demonstrate knowledge and use of appropriate methods of patient protection to include adequate gonadal shielding for male patients, for women of childbearing age and for pediatric patients.
6. Modify exposure factors to increase patient protection.
7. Demonstrate knowledge and proper use of filtration, beam restriction devices, patient positioning and shielding devices to protect the patient from unnecessary ionizing radiation.
8. Demonstrate knowledge of dose effects to include genetic dose indicators, somatic dose indicators and adverse biological effects.
9. Demonstrate knowledge of personnel protection to include time, distance and shielding during radiography and fluoroscopy.
10. Demonstrate knowledge of the basic properties of radiation.
11. Demonstrate knowledge of ethical and professional responsibilities to practice and provide adequate radiation protection.
12. Demonstrate knowledge of methods of radiation monitoring.
13. Demonstrate knowledge of the established standards and recommendations from National Council on Radiation Protection and Measurements (NCRP).

Terminal Competencies (Sonography Specific)

1. Demonstrate knowledge of the basic properties of ultrasound.
2. Demonstrate knowledge of acoustic energy bioeffects.
3. Demonstrate knowledge of ethical and professional responsibilities to practice medical ultrasound.

ADMISSIONS CRITERIA AND SELECTION PROCESS

Nondiscriminatory Statement

It is the policy of the Harris Health System School of Diagnostic Medical Imaging to provide equal educational opportunities for all applicants regardless of an individual's sex, race, color, religious creed, age, national origin, disability, or other legally protected characteristic.

Technical Performance Standards

Students accepted into the program must be physically capable of successfully performing the following standards accurately and expeditiously. These standards are related to occupational safety.

1. Lift, move and transport patients (from bed to wheelchair/stretcher or from wheelchair/stretcher to examination table) without causing injury and discomfort to the patient or self.
2. Properly position the patient.
3. Manipulate imaging equipment (fixed and mobile units) into correct positions.
4. Transport mobile equipment carefully to assigned areas of the hospital in a safe timely manner.
5. Respond instantly to emergency situations.
6. Evaluate written requisitions for imaging procedures.
7. Explain imaging procedures and give effective instructions to patients.
8. Obtain medical history from patient and communicate this information to the radiologist.
9. Evaluate images in relation to technical factors, image quality, and proper positioning.

Transfer of Credit

Students whose academic goal is to obtain an undergraduate degree should check with the institution before enrolling in this program.

1. Students transferring to a college or university
   - Institutions of higher learning award credit for coursework completed to graduates who have successfully completed the ARRT/ARDMS examination. The credit awarded is based on the institution's admission policies and practices and is awarded at the discretion of the institution.
2. Per ARRT, the program is no longer accepting advanced placement applications. https://www.arrt.org/news/2020/01/27/arrt-to-discontinue-advanced-placement-option

Applicant Requirements for Program Eligibility

1. Be 18 years old by July 1st of the year of application.
2. Be a U.S. citizen or permanent resident at the time of application. Proof of U.S. citizenship or permanent residence is required.
3. Have a minimum of an associate's degree from an accredited college or university.
4. Complete required prerequisite coursework for desired program:
   - Algebra, higher mathematics course, or statistics course offered by the math department
   - Communication class (English, speech, or composition)
   - Anatomy and Physiology I and/or II
   - Arts and/or humanities
   - Social/behavioral sciences
   - Sonography only:
     - General college level physics
     - Medical terminology
5. Attend an information session.
6. Have a cumulative GPA of 2.5 or higher on a 4.0 scale.
   a. Must provide transcripts from all colleges attended. Send official transcripts directly.
   b. All credits and grades from all colleges are included to calculate a cumulative GPA using a Transcript Calculator.
7. Applicants with foreign transcripts must have academic credentials evaluated for U.S. equivalency by an education consulting service (i.e. SpanTran) and submit an official copy directly to the program. The evaluation must include all credits, grades, and overall GPA.
8. Submit a nonrefundable $75 application fee in the form of a money order or cashier's check only.

Conditional Enrollment

When space is available, the student applicants may be considered for selection and conditionally accepted and enrolled. Student applicants are considered conditionally eligible if they will complete admission requirements that include prerequisites, minimum 2.5 cumulative GPA and degree by the end of the initial fall semester of the program.

Failure to complete degree or prerequisite requirements, or failure to maintain an eligible GPA with the addition of the conditional coursework, will result in administrative dismissal from the program.

Applicants who complete application, pay the application fee, and send transcripts will each be evaluated for program eligibility. All eligible applicants will be considered for selection.

For more information regarding a program, or about your specific eligibility status, you may attend one of our regular information sessions, which are held the second Tuesday of each month at 5 pm, or schedule an informational/eligibility consultation with a program director.

Student Selection Process

Applicants are selected for admission using the following information:

1. Complete the application and submit the application fee
   a. Official transcripts - academic performance
2. Attend an interview with the selection committee
3. The timeline for the admissions process:
   a. Early Admissions: September 15 (notified by October 15)
   b. Regular Admissions *(if space available)*: January 15 (notified by February 15)
   c. Late Admissions *(if space available)*: March 15 (notified by April 15)
4. Return the acceptance letter with a $150 non-refundable administrative fee.

Ethics Clearance Required

If you have been convicted in court of a misdemeanor, felony (including conviction of a similar offense in a military court-martial) you will need pre-clearance from ARRT or ARDMS.

You are required to report:

- Charges of convictions that were stayed, withheld/deferred, set aside, or suspended.
- Any plea of guilty, Alford plea, or plea of no contest (nolo contendere).
- Court supervision, probation, or pre-trial diversion.

https://www.arrt.org/docs/default-source/ethics/Ethics-Checklist-Criminal-Violation.pdf?sfvrsn=34
https://www.ardms.org/wp-content/uploads/pdf/Pre-application-Criminal-ARDMS.pdf

Onboarding Process

Harris Health System's Human Resources Department (HR) onboards all applicants selected for admission. The process includes (at no cost to the applicant):

- A general physical examination conducted by Harris Health
- Background check
- Drug screening
- Harris Health System general orientation
- CPR certification

Tuition Policy

Tuition is due before the first day of the semester. Payment options are available by request.

1. Tuition costs are subject to change.
2. Tuition does not include laptops, books, uniforms, housing, transportation or parking.
3. All students pay a one-time, non-refundable $150.00 fee at the beginning of the program.
4. Students residing outside of Harris County must add $50.00 per semester.
5. Non-Texas residence or those who have lived in Texas less than one year must add $200 per semester.
6. Tuition must be paid during the registration period before the first day of the semester.
7. A $50 fee will apply if late and/or if using a prearranged payment plan

Students who fail to pay tuition by the deadlines will not be allowed to attend class, and will be required to make up time missed in accordance with the attendance policy.

Veterans Administration (VA) Education Benefits

- Students receiving VA education benefits must provide transcripts of all post-secondary education completed.

Financial Aid

At this time, The Harris Health System – School of Diagnostic Medical Imaging does not have a formalized program in place to provide financial assistance. Our tuition is set at a competitive amount because we strive to provide accessibility and affordability for all students.

If you are interested in applying for financial assistance, please see the American Society of Radiologic Technologists for a variety of scholarship opportunities. https://foundation.asrt.org/what-we-do/scholarship

Refund

A student who officially withdraws during the first ten days of the program will be refunded 100% of the tuition paid. After the tenth day, tuition will not be refunded.

Withdrawal and Readmission

A student who wishes to withdraw from the program should submit a document to the school. The student may be eligible for readmission for the following academic year provided classroom, clinical, and program capacity are available.

- The student must notify the school in writing at least 45 days before the date of reentry.
- The administrative committee will review the student's previous academic record.
- The program will respond to the request for readmission within 2 weeks of receipt of the request.
- Students who request readmission and are approved must return within one year.

Radiography Readmission

- Per JRCERT, the program must be completed within three years (150% of the published program length).

Academic Support Services

We acknowledge that all students learn differently and may require various accommodations in order to be academically successful. If a student is in need of academic support services, please request a "Reasonable Accommodations Request" form from our Learning and Education Development Specialist.

ATTENDANCE
Call 346-426-1530

Attendance has a profound effect on performance in both the classroom and the clinic. Student attendance will be monitored by the school and clinical staff. Students are expected to be in attendance, and on time, every day. Tardiness (being late to class) affects students' education and increases chances for failure. Tardiness interrupts lessons, class activities and interferes with the learning environment for all students.

Students are allowed:

- A total of three absences each semester
- A total of three lates and/or early outs each semester
- A total of three infractions (e.g. missed punch, wrong site, etc.) each semester.

School hours: *7:00 am – 3:00 pm*

Breaks

On clinic days, students may take one 15 minute break in the morning and one 15 minute break in the afternoon. Students may not take a break until they have been in clinic for at least two hours.

- Breaks can be taken when workload permits, with permission from the charge technologist of the area.

Lunch

Students are allowed a minimum of 30 minutes for lunch.

- Lunch period begins and ends at the time indicated on the lunch schedule by the supervisor.
- Lunch should be scheduled and taken by 1:00 PM.
- Students should eat in the designated eating areas.
- Students should not eat in the classroom or cubicles.

Holidays

Students receive scheduled time off each year. The exact dates are listed on the academic calendar.

Christmas Break	2 weeks	Spring Break	1 week
End of spring semester	3 weeks	End of summer semester	1 week

In addition to scheduled breaks, students are off on the observed hospital holidays listed and are not permitted on campus or clinical education sites. The exact dates are listed on the academic calendar.

- Martin Luther King's Day
- President's Day
- Good Friday
- Memorial Day
- Juneteenth
- Independence Day
- Labor Day
- Day before Thanksgiving
- Thanksgiving Day
- Day after Thanksgiving

Non-Permissible Absences

Students are not permitted to schedule absences on mandatory school days or the day before/after a holiday. The following are considered non-permissible absences:

- The day before/after a holiday
- Workshops
- TSRT
- Graduation/White Coat Ceremony
- International Day
- Semester Orientations
- Make-up days
- Final Exams

If a day is missed, refer to the disciplinary section below.

Illness (Communicable Disease)

A student with a communicable disease must:

- Inform the school immediately (before returning to class or clinic).
- Inform Occupational Health
  - Phone: 713-873-3470, option 5.
  - Hours: Monday-Friday 7 am – 4 pm.
- Obtain clearance from Occupational Health for return to school.

Inclement Weather

Sometimes inclement weather or other unforeseen circumstances prevent students from reaching school safely and on time.

During inclement weather:

- The Harris Health Emergency Notification will be received.
- Dr. Black will call the managers. The managers will call faculty and submit a Harris Health email to students. Faculty will contact students via text and/or other messaging apps.
- Students will be notified when the school is closed or when there is a delayed start. "Delayed starts" are when clinical departments delay opening.
- Students will not be penalized according to the regular attendance policy.

On-Site Injury

A student who is injured while on the Harris Health System premises must:

- Report the injury immediately to the clinical supervisor and clinical instructor.
- Immediately complete and submit an E-incident report to Risk Management.
- Be evaluated by the Occupational Health clinic or emergency department personnel.
- Be cleared to return to school without physical limitations.

Physical Limitations

A student who is injured or undergoes a surgical procedure that interferes with clinical duties may resume didactic learning with physician clearance documentation. The student will not return to clinic with physical limitations which prevents him/her to meet the technical performance standards. The student must:

- Submit clearance documentation before returning to clinic.
- Time missed must be made up by the end of the semester. In extenuating circumstances, the administrative committee will determine when the make-up time will be administered.
- If the limitations interfere with the student's progress, the student may request a leave of absence. Approval of the leave of absence will be determined by the administrative committee.

Jury Duty

Jury duty is a civil responsibility. A student who is summoned to jury duty may choose to be excused or to serve.

- Choose to be excused:
  - Submit documentation provided by the program to the court.
- Choose to serve:
  - Submit the original court documents as soon as the notice is received.
  - Student will be excused from class/clinic for up to two weeks.
    - Time missed will not need to be made up.
    - This will not count against the number of allowable absences for the semester.
  - If the trial lasts longer than two weeks, the student will be deferred to the administrative committee.
  - Submit original court documents when jury duty is complete.

Court Appearances

A student who is subpoenaed to appear in court on Harris Health System business:

- Must submit the original court documents as soon as he/she receives notice.
- Will be excused from school.
- Must submit original court documents when court appearance is complete.
- Time missed will not need to be made up.
- This will not count against the number of allowable absences for the semester.

A student who is subpoenaed to appear in court on personal business:

- Must submit the original court documents as soon as he/she receives notice.
- Will be excused from school.
- Must submit original court documents when court appearance is complete.
- Time missed must be made up by the end of the semester. In extenuating circumstances, the administrative committee will determine when the make-up time will be administered.
- This will not count against the number of allowable absences for the semester.

A student who is not summoned or subpoenaed but voluntary attends court:

- Will not be excused from school
- Time missed must be made up by the end of the semester.
- This will count against the number of allowable absences for the semester.

Bereavement Leave

A student is allowed 3 consecutive days for a death in the immediate family. Harris Health System defines immediate family as:

- Mother, father, stepfather, and stepmother
- ***Sister, brother, spouse***
- Daughter, son, stepchildren, and grandchildren
- Father-in-law, mother-in-law, daughter-in-law, and son-in-law
- Grandparents, great-grandparents and legal guardian

Notify the program director for bereavement (funeral) leave. A program from the funeral must be brought back as documentation. Time missed for bereavement leave will not be required to be made up. This will not count against the number of allowable absences for the semester.

Leave Of Absence (LOA)

Requests for LOA are not guaranteed to be approved and will be decided on a case-by-case basis. A student requesting a leave of absence must schedule a meeting with the program director.

- The maximum amount of time granted for LOA is 10 consecutive school days.
- If the LOA exceeds 10 school days the student will be withdrawn from the program.
- Only one (1) LOA may be taken each academic year
- All LOA time will need to be made-up and the schedule will be determined by the program director.

ATTENDANCE NOTIFICATIONS

School Notification

Students should notify the school of any attendance issues at 346-426-1530. The information must include the following:

- Full name
- Full date
- Program (Radiography/Sonography)
- Contact information

Absences

Students may be absent a total of three days each semester. The student with more than three (3) absences will be dismissed from the program. **All absences must be made up**.

The student may leave a voice mail message that includes:

- Name
- Date
- Time of call
- Indication of absence

It is recommended that the student to call at a later time (after 7:00 am) and verify receipt of message.

- Students should notify the school by 9:00 am on the day of the absence.
  - If there is no notification by 9:00 am it will be coded as a no-call, no-show
- Do not log in/out for your classmates.
  - Logging in/out for another student is considered fraudulent and will result in disciplinary action.
- Failure to log in or out on the same day may be coded as an absence.
- Logging in or out must be done in the assigned area of the clinical rotation.
  - If unable to log in or out on time, notify the clinical coordinator immediately.

Lates

- Students must be in class/clinic by the scheduled start time.
- A student is coded late if they clock in within the 59 minutes after the start of clinic/class.
  - If you need to be at your site by 7:00 am, you are late between 7:01-8:00 am.
  - If you need to be at your site by 7:30 am, you are late between 7:31-8:30 am.
  - If you need to be at your site by 7:45 am, you are late between 7:46-8:45 am.
  - If you need to be at your site by 8:00 am, you are late between 8:01-9:00 am.
- Any arrival after the 59 minute window will be coded as an absence.

Early Departure (Early Out)

An early departure is any time a student clocks out or leaves up to 1 hour before the conclusion of a scheduled class/clinic time.

- If you normally leave clinic at 3:00 pm, leaving at 2:00 pm will count as an early-out.
- If you normally leave clinic at 3:00 pm, leaving at 1:59 pm will count as an absence.
- An early departure will be coded as a late.

DISCIPLINARY ACTION FOR SEMESTER ATTENDANCE

Absences per Semester

- 1st – 3rd occurrence: One full clinic day (8 hours) to be made-up during make-up week.
- 4th occurrence: Immediate dismissal.

Lates/Early Outs per Semester

- 1st – 3rd occurrence: No penalty.
- 4th occurrence: Disciplinary counseling.
- Any further occurrences: Referral to administrative committee.

No-Call/No-Show (Absent without Notification) per Academic Year

- 1st occurrence: First disciplinary counseling and counts as an absence with one full clinic day (8 hours) to be made-up during make-up week.
- 2nd occurrence: Final disciplinary counseling and counts as an absence with one full clinic day (8 hours) to be made-up during make-up week.
- 3rd occurrence: Immediate dismissal.

Make-up time: All make-up time must be made up by the end of the semester. In extenuating circumstances, the administrative committee reserves the right to determine the schedule and/or additional semesters.

DRESS CODE

Uniform: Solid black scrubs (colors permitted for stitching and logos).

- No fashionable zippers, snaps, or buttons allowed due to infection prevention concerns.
- Both male and female students may wear standard white or black t-shirts or standard white or black fitted long-sleeve shirts under their scrub top. Shirts should have a rounded collar, be clean, and be free of logos.
- School Pride Week: It will take place the second week of every month. Students will be allowed to wear class t-shirts or any Harris Health issued shirt along with their regular scrub bottoms (only on didactic days).

Shoes: Students must wear shoes that conform to established safety and infection prevention standards. Students should wear closed-toe shoes that promote a quiet environment. Crocs™, flip-flops, slippers, and boots are examples of inappropriate footwear for students at any Harris Health locations.

Lab Coat: White or black.

Covid-19 requirement: Personal hand sanitizer and disposable surgical masks

The dress code is in effect at all times. Students must be in full uniform every day.

- Hospital identification must be visibly worn at all times at the collar.
- Hair must be kept clean.
  - Shoulder length or longer hair must be pulled back so as not to fall forward during patient care.
  - Hair must not cover the name badge.
  - Hair ornaments kept to a minimum.
  - Facial hair must be neatly trimmed and well groomed.
- Outerwear depends on location.
  - Clinic: Lab coat only
  - Class: No restrictions except for hoodies, hats, and beanies.
- Shoes must be clean and in good condition.
- Jewelry must be kept to a minimum.
- Students may wear cologne, perfume, aftershave, and make-up, provided that the amount is not excessive and does not interfere with the work being performed by others.
- Nails must be kept short and clean.
  - Nails should not extend ¼" past the fingertips.
  - No artificial fingernails or extenders.
  - Nail polish must be un-chipped and clear.
- Students on surgery rotation must wear appropriate surgical attire. Students must wear masks in all operating rooms. Students leaving the surgery department (lunch, break, or end of clinical day) must remove all surgical attire.
  - Surgical attire:
    - OR scrubs (retrieved from scrub kiosk in BT, request from supervising technologist in LBJ)
    - Hair cover
    - Shoe covers
  - LBJ Students must wear a lab coat to cover scrubs (exposed to surgery) when leaving the surgical department and entering other areas of the hospital.

Identification Badge

ID badges are utilized by Harris Health System for identification as well as for access to all facilities. The student must:

- Wear the ID badge at the collar while on Harris Health System premises.
- Return defective and defaced badge to the Department of Public Safety for replacement.
- Not lend the badge to anyone to access Harris Health System premises.
- Not borrow anyone's badge to access Harris Health System premises.
- Not deface the ID badge with stickers.
- Replace a lost badge.
  - Complete the request for replacement.
  - Have the request signed by the Program Director.
  - Take the request to Harris Health System Department of Public Safety.
  - Pay the fee to replace the ID badge.

Professional Conduct

Harris Health System is committed to creating a patient-centered culture. Students are expected to demonstrate professional behavior to patients, guests and coworkers that create a positive experience, every day, every patient, every time.

SAFETY

Radiation Protection Policy

Upon admission, students receive instruction in basic radiation protection. Students also receive dosimeters. These instructions are given before the students begin assignments in clinical rotations, and before the students begin performing experiments and radiographic procedures using ionizing radiation. Radiation protection practices are designed to reduce radiation exposure to self, to the patient, to other personnel and to the public. Students must not hold image receptors during any radiographic procedure, and student should not hold patients during any radiographic procedure when an immobilization method is the appropriate standard of care. Failure to adhere to the radiation protection policy will result in disciplinary action.

Students are instructed on:

- The importance of radiation protection
- Radiation measurement
- Personal monitoring device (dosimeter)
- Monitoring records
- Protective measures for the student, patient, staff and visitors
- Proper radiation protection practices

Students are required to:

- Adhere to the radiation protection practices
- Wear radiation monitor as instructed (see guidelines below)
- Wear protective apparel as instructed
- Utilize the principles of time, distance, and shielding in radiation protection
- Leave radiation monitor in a safe area at the end of each day, unless otherwise instructed
- Perform experiments with energized equipment under supervision of clinical staff or clinical instructors only

Students are prohibited from performing radiographic procedures on each other using ionizing radiation.

Radiation Monitoring Guidelines

The student must:

1. Wear the radiation monitor on the uniform collar at all times while in clinic
2. Wear the radiation monitor outside of the lead apron on the collar during fluoroscopy
3. Leave radiation monitor in a safe area at the end of each day, unless otherwise instructed
4. Exchange the radiation monitor at the beginning of each quarter
5. Handle the radiation monitor with care
6. Be careful not to misrepresent the actual exposure; severe disciplinary action will result including suspension and/or dismissal from the program
7. Report lost or altered radiation monitors to the faculty
8. Pay a $20.00 replacement fee for lost radiation monitors to the office manager

9. Submit the radiation monitor(s) on the last day of training for a final reading. A composite radiation record will be placed on file in the radiation safety office
10. Place a request in writing to the radiation safety officer (RSO), Dr. Bhuiyan Nasir or Shaohua Liu, to have exposure records made available to employers
11. Failure to adhere to the guidelines for radiation monitoring will result in disciplinary action

12. In the event that a student receives an excessive amount of radiation during a reporting period, the RSO and the program director will meet with the student and conduct an incident investigation. Recommendations from the RSO will be followed in accordance with the Harris Health System Radiation Safety Policy

Pregnancy Policy

The pregnancy policy adheres closely to the Basic Radiation Protection Criteria recommended by the National Council on Radiation Protection and Measurements and the Texas Regulations for Radiation Control, Item 21.208(a).

In order for a pregnant female student to take advantage of the lower exposure limit and dose monitoring provisions specified in 10CFR Part 20, the female student must declare her pregnancy in writing. The National Council on Radiation Protection and Measurements (NCRP) recommends a monthly equivalent dose limit of 5 mSv to the embryo/fetus once the pregnancy is known. http://www.nrc.gov/reading-rm/doc-collections/cfr/part020/part020-1208.html

This policy allows a pregnant female student participating in the Harris Health System School of Diagnostic Medical Imaging to:

- Decide whether she wants to formally declare her pregnancy to take advantage of lower dose limits for the embryo/fetus of pregnant women.
- Must declare her pregnancy in writing.

A declared pregnant female student is defined as a female student who voluntarily declares her pregnancy and the estimated date of conception.

When a female student declares her pregnancy:

1. The program will supply additional monitoring (embryo/fetus).
2. All didactic and clinical assignments will remain the same.
3. All policies and procedures that affect attendance will remain the same.
4. If the student requires any variations from the approved policies and procedures the student, her physician, the Program Director, and the Radiation Safety Officer will provide input into the decision making process.
5. The student may choose to:
   a. Continue in the program.
   b. Take a leave of absence and return when the baby is born.

<u>If a declaration of pregnancy is withdrawn:</u>

a. Withdrawal must be written and submitted to the Radiation Safety Officer.
b. The dose limit for the embryo/fetus would apply only to the time from the estimated date of conception until the declaration is withdrawn.

<u>If the declaration is not withdrawn:</u>

a. The written declaration may be considered expired one year after submission.

The lower the dose limit for the embryo/fetus should remain in effect until female student withdraws the declaration in writing or the female student is no longer pregnant.

References:
USNCR, "Dose equivalent to an embryo/fetus," Title 10, Code of Federal Regulations. Revision, August 2018. http://www.nrc.gov/reading-rm/doc-collections/cfr/part020/part020-1208.html

Magnetic Resonance Imaging (MRI) Safety Screening
The Harris Health System School of Diagnostic Medical Imaging adheres to the safety policy of MRI safety and screenings. All students are screened for contraindications at the beginning and mid program and are required to complete an MRI safety in-service. The screenings are evaluated and MRI compatibility is determined. The reference used for determining MR compatibility is www.mrisafety.com.

Screening forms are reviewed by an MRI certified instructor. Any screening forms with potential contraindications are further evaluated by the clinical department's MRI safety team. Students are required to notify the program should their screening status change so that a rescreening can be performed.

Safety and Environmental Health
Please contact the program director, Suzanne Young, for more information at 346-426-1407 or at suzanne.young@harrishealth.org.

OSHA Standards
Occupational Safety and Health Administration standards are presented to the incoming students at Harris Health System orientation and again at mandatory annual in-services.

Code Red (Fire Safety)
Code Red regulations are presented to the incoming students at Harris Health System orientation and again at mandatory annual in-services. Students are expected to know and abide by the fire and safety regulations.

Material Safety Data Sheet (MSDS)
MSDS Sheets contain pertinent information regarding all chemicals used within the hospital. Safety regulations are presented to the incoming students at Harris Health System orientation and again at mandatory annual in-services.

- MSDS Sheets must be accessible, on site in area for any chemicals/cleaning/disinfecting solutions that are used in the area.

Infection Prevention
The Infection Prevention Department (IPD) shall be responsible for establishing and maintaining infection control measures for the control and prevention of infections across the organization and to identify and control outbreaks.

- Reduce the risk of healthcare associated infections for all patients, employees, and visitors.

https://msdsmanagement.msdsonline.com/6e6f4ee0-4697-49a6-a7a0-8f9e44059469/ebinder/?nas=True

Harris Health System Department of Public Safety
Harris Health System maintains a security program to protect patients, personnel, students, and visitors against injury or loss. Harris Health System reserves the right to inspect packages, lockers, and any other areas as needed. Harris Health System also reserves the right to request proper identification. Any personal, hospital or patient items that are missing should be reported immediately.

Criminal Offense
Students who are charged with a criminal incident (except standard traffic offenses) must report the incident to school administrators within five days after he/she is charged or arrested. Failure to do so may result in dismissal from the program.

DISCIPLINARY ACTION
Disciplinary action will be determined by the administrative committee.

Disciplinary Guide Lines	
Permissible Incidents	**Impermissible Incidents**
Excessive absenteeism	Misconduct
Failure to follow instructions	Unsatisfactory academic performance
Dress code violation	Violation of safety rules
Missed punch	Academic dishonesty
Wrong location punch	Violation of school, department, or hospital policies
Excessive Late infractions	Unsatisfactory clinical performance

Students are subject to disciplinary action when they engage in conduct that violates program, departmental, and Harris Health System policy. The program reserves the right to make disciplinary decisions to ensure the highest level of education and patient care.

Permissible Incidents
Meet with program director.

Impermissible Incidents
Meet with administrative committee.

Immediate Dismissal
Students are subject to disciplinary action when they engage in conduct that violates program/department/hospital policy.

A student may be subject to immediate dismissal after a thorough investigation for any of the following infractions: **This list is not all-inclusive.**

Rudeness	Unethical conduct
Insubordination	2 consecutive no call/no shows
Unprofessional behavior	Willful negligence of policies/procedures
Physical violence	Judicial convictions
Possession of alcohol, drugs, and/or weapons	HIPAA violations
Intoxication	Unsatisfactory didactic/clinical performance

Falsification of records	Unauthorized practice of medicine
Theft	Unauthorized PACS submissions

Due Process or Grievance Procedure
The grievance procedure is designed to assure fairness to students involving disciplinary action; student reports, dismissals, unfair treatment, unsafe or unhealthy conditions and discrimination.

The grievance procedure should be invoked ***only after*** attempts to resolve the problem at the school's administrative level have failed.

Step 1:

1. No later than 5 days after the occurrence that gave rise to the conflict; the student will present a signed written request to the Associate Administrator requesting a grievance.
2. The student and faculty representative shall meet with the Associate Administrator and present their grievance within 5 days of the meeting.

Step 2:

1. In the event that the conflict was not satisfactorily resolved, the student may, within 5 days of the response, submit written request for resolution to the Executive Vice President (EVP) of Human Resources.
2. The student and the EVP shall convene a meeting within 5 days of receipt of the request.
3. The EVP shall submit a written response to the student's request within 5 days following the meeting.
4. The decision of the EVP is final.

Availability of Standards/Complaint Resolution
The *Standards for an Accredited Educational Program* is a document containing the essential elements of a radiography program and was adopted by The Joint Review Committee on Education in Radiologic Technology:

- The program educates all students of the 'Standards' by discussing them during program orientation, as well as introductory courses.
- Every effort is made to conduct the business of the school in the manner prescribed and to maintain compliance with the 'Standards'.
- In the event that noncompliance with 'Standards' are identified, a plan of corrective action for the area of noncompliance and recommendations for improvement will be submitted to the program's administrative committee for approval. Upon approval, the corrective action will be implemented and evaluated for effectiveness.
- Unresolved complaints with the standards may be reported to the:

  Radiography
  Joint Review Committee on Education in Radiologic Technology (JRCERT)
  20 N. Wacker Drive, Suite 2850
  Chicago IL. 60606-3182
  (312) 704-5300 www.jrcert.org
  https://www.jrcert.org/jrcert-standards/

  Sonography
  Joint Review Committee – Diagnostic Medical Sonography (JRCDMS)
  6021 University Blvd. Suite 500

Ellicott City, MD 21043
(443) 973.3251 www.jrcdms.org
https://www.jrcdms.org/policies.htm

HARRIS HEALTH POLICIES

*All policies can be found on the Harris Health System intranet.

Telephone/Cell Phone Usage

Use of cell phones or other devices to take pictures, to record conversations or video-record within the clinical area is strictly prohibited.

- The use of cell phones is prohibited in the patient care areas.
- Emergency calls should be directed to the school office at 346-426-1530.
- Harris Health System telephones, fax machines, and copiers should be used for Harris Health System business only.
- The use of cell phones in the classroom is limited and controlled by faculty.

Smoking

Use of tobacco and/or vape products in the Harris Health System facilities is prohibited.

- For the safety of all students, employees, and patients, all facilities of Harris Health System are smoke free.

Sleeping

Sleeping anywhere on Harris Health System's property is prohibited.

- A violation of this policy is grounds for immediate dismissal.

Solicitation and Distributions

Solicitation or distribution within the Harris Health System facilities is prohibited.

STUDENT SERVICES

Tutoring

Available for all coursework in the curriculum.

Admissions

Serves as the first point of contact in the recruitment process, from answering student and family admissions questions to coordinating the student selection process.

Student Leadership Council (SLC)

Provides a collective voice for the students and provides leadership opportunities as class officers in the student government.

Career Development

Includes career education in advanced certification and higher education, career counseling, and resume review.

Wellness Education

Provides information on personal wellness including smoking cessation classes, exercise, weight loss, and nutrition. The Employee Clinic makes vaccinations and TB screening available to all students at no cost.

Americans with Disabilities Compliance

Students who have a documented learning, psychological or physical disability may be entitled to reasonable academic accommodations or services. To request accommodations or services, contact

admissions. All students are expected to fulfill essential course requirements. All requests are referred to Human Resources for consideration. The program will not waive essential skill or requirements of a course. Students requesting ADA requests for accommodations are referred to Harris Health Human Resources

Academic Support Services

We acknowledge that all students learn differently and may require various accommodations in order to be academically successful. If a student is in need of academic support services, please request a "Reasonable Accommodations Request" form from our Learning and Education Development Specialist.

Employment

Enrollment in the programs requires dedication. Full-time employment during enrollment is discouraged.

- Course assignments must take priority over employment
- Students who must work should try to secure jobs with flexible hours
- The program does not accommodate part-time enrollment
- Students do not receive a salary/stipend

Personal Counseling for Spiritual Care

Chaplains in the department of Spiritual Care are available to provide spiritual care. This includes employees, students, patients, patient's family members, and visitors.

Parking

Students are encouraged to explore all options that are available to them for transportation and parking in the medical center. Students are responsible for their own parking. However, parking is available at no cost at the majority of the clinical sites÷

- 4800 Fournace – Parking garage (quarterly fees).
- Ambulatory Care Center (ACS) – Use employee parking area (free).
- Smith Clinic – Students are responsible for the cost of parking.
- LBJ – Parking lot D (free).
- BT – Students are responsible for the cost of parking. Contract parking is available through the Texas Medical Center Parking Garage. Students may contact Texas Medical Center Parking at (713) 791-6161, or online at: https://www.tmc.edu/parking/contract-parking/

Health & Healthcare Services

Guidelines for student healthcare:

1. Students should be in good mental and physical health.
2. Students are responsible for their own personal healthcare. Students may access health care services within Harris Health System. However, students will be billed for services received according to "ability to pay" as determined by Harris Health System eligibility.
3. Occupational Health Clinic establishes and maintains a health record for all incoming students.
4. All healthcare procedures for incoming students are performed by the Harris Health System Occupational Health Clinic at no cost to the student.
5. The complete COVID-19 vaccine is required prior to admission. The booster is not currently mandated.
6. The student must be cleared fully by Occupational Health Clinic before beginning the program.

7. Because of the high incidence of pulmonary tuberculosis in the patient population served by Harris Health System, ongoing TB skin tests or chest x-rays are required.
    - Hospital policy mandates that all employees and students must adhere to the Harris Health System policy governing TB screening and testing.
    - This policy is managed by Harris Health System and mandates suspension if it is violated.
8. The hepatitis vaccine is available to all students. The vaccine may be obtained through the Occupational Health Clinic at no cost to the student.
9. Students who are injured while on Harris Health System premises should report the injury immediately to the clinical supervisor and clinical instructor.
    - An injury report and an e-incident report must be completed and submitted immediately to Patient Safety and Risk Management.
    - The student will be evaluated by Occupational Health Clinic or emergency department personnel.
10. To return to class and clinic, students must be cleared by their physician following an absence due to:

    Injury Illness Surgery Communicable disease

RECORD KEEPING AND AVAILABILITY OF RECORDS

Official student records are maintained in the school office. The student must inform the school of any changes.

The following records are maintained:
Current students

- Application to the school
- Transcripts
- Academic documentation
- Signed student agreement
- Harris Health System admission records
- Attendance records
- Student evaluation records including didactic and clinical areas
- Documentation of counseling and disciplinary action
- Didactic and clinical education record

Graduates/Withdrawals

- Harris Health System transcript (permanent)
- Application form (permanent)
- Class schedules, attendance report summary, and clinical assignments are kept for at least 3 years

Applicants who were denied admissions

- Records are kept for a maximum of 1 year
- Summary of reason

Records Release

- Transcripts of all graduates of the Harris Health System are stored electronically.
- The student's record may be transferred only by written request.

Confidentiality of Student Records

The program has an obligation to protect the student's right to privacy regarding their personal and academic information. Student records are maintained in accordance with the Family Education Rights and Privacy Act.

The program must have written permission from the student in order to release any information from their education record. However, FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (34 CFR § 99.31): https://www2.ed.gov/policy/gen/guid/fpco/pdf/ferparegs.pdf

- Program officials with legitimate educational interest
- JRCERT/JRCDMS/CAAHEP officials
- ARRT/ARDMS officials
- Appropriate parties in connection with financial aid to a student
- Organizations conducting studies for, or on behalf of, the program
- To comply with a judicial order or lawfully issued subpoena
- Appropriate officials in cases of health and safety emergencies
- State and local authorities pursuant to specific state law

The program considers name, address, telephone, date of birth, degree earned and dates, major field of study, dates of attendance, and number of hours completed and in progress, enrollment status, student classification, and name of most recent institution attended as directory information. This is the information that can be given out to anyone making a request, provided the student has not requested confidentiality hold.

1. The program will regard each student record as a unique and private document and maintain it in a secure, controlled environment.
2. Student records are secured in a locked cabinet in the program's administrative office and are available for review on request by the student.
3. In compliance with the "Federal Family Education Rights and Privacy Act of 1974" (Buckley Amendment), enrolled students may review personal records upon request.
    - The record review will be under the supervision of a program official
4. The program director and clinical instructors' offices and records are accessible to program administration and staff only.
5. Release of student information will be by written request of the student.
6. Enrolled students must submit all requests for information on "Request for Student Record" form available in the program office.
7. The office will respond to requests within 24 hours.
8. Graded papers will be returned to each student personally and not left in a public area.

http://www2.ed.gov/policy/gen/guid/fpco/pdf/ferparegs.pdf

Schedules

Academic and clinical assignments are sent to all students via email at the beginning of each semester.

Clinical Assignments

- Clinical assignments change each semester and new schedules are posted accordingly.
- Students must check the schedule for new assignments.
- Faculty must be contacted for approval of any changes to the clinical schedule.
- Students may be reassigned by Faculty or Department leaders if necessary.
- All students rotate through all mandatory clinical assignments.

Professional Liability Insurance HHS documentation needed

The program maintains professional liability insurance for all students.

- Students are covered only when they are functioning in the capacity of a student in Harris Health System.
- The policy may be located in the School office.

Student Malpractice Blanket Liability
The limits of coverage are: $**1,000,000.00 / $3,000,000.00**
Policy covers: **Students and Faculty**

Learning Resources

Learning resources listed below are available for student use.

Resource	Availability	How to Access
Resources (books and software)	During school hours, Overnight loan, Check out	Request from school office
Classroom	When not in scheduled use	Student ID
Radiography lab	Monday – Thursday 7A-7P	By reservation
Sonography scan lab	Monday – Thursday 7A-7P	By reservation
Skeleton, disarticulated bones, injectable training arm, positioning and imaging phantoms, physics and other teaching aids	During school hours	No reservation necessary
	Before and after school	Reservation required

Trajecsys Reporting System

Harris Health System School of Diagnostic Medical Imaging has implemented the use of Trajecsys web-based reporting system for the following items:

- Time/Location Monitoring
- Activity Logs
- Checkoffs/Competencies
- Evaluations
- Forms
- Student Scheduling
- Reports

Registration into Trajecsys can be accessed at https://www.trajecsys.com/programs/registration.aspx

CLINICAL EDUCATION

Purpose:

The diagnostic medical imaging program at Harris Health System is designed to educate the next generation of competent and compassionate entry-level imaging professionals. To accomplish this purpose, the instruction is concentrated in two areas: didactic and clinical education. The two avenues of instruction are designed to achieve objectives in the cognitive, psychomotor and affective domains.

The Competency Based Clinical Education (CBCE) plan begins during the first semester as Clinical Education I and continues through the last semester. The students are presented with specific objectives and competencies that must be accomplished. The CBCE plan consists of three stages of development: instruction, practice, and evaluation.

The clinical education policies and procedures are designed to provide clear concise instructions to the student regarding clinical education expectations: when, under what conditions, and how well he/she is expected to perform in order to demonstrate clinical competency and proficiency.

In clinical education, the student will:

Develop Proficiency

Proficiency is the skill with which a student accomplishes assigned tasks in the clinical setting. True proficiency is more than competence but less than perfection. Proficiency comes from doing as many examinations as possible and aiming to improve the level of performance after each examination completed.

Assume Responsibility

All students are working towards developing the skills necessary to assume the responsibilities of an entry-level technologist. To achieve this goal, the student must be open to constructive criticism from all members of the healthcare team with whom they interact.

Develop Independence

All students begin clinical education by performing medical imaging procedures under the direct supervision of a qualified technologist. As the student progresses in the program, the student is expected to do fewer procedures under direct supervision and more under indirect supervision. Examinations performed in critical care areas must always be performed under the direct supervision of a qualified technologist.

Develop Dedication

The student learns that the reason for the existence of the healthcare facility and its staff is to meet the needs of the patient. The student is dedicated to practicing good patient care skills by being compassionate and competent.

Develop Excellence

Excellence is a combination of performing at your best and adhering to the policies and procedures of the imaging program, the imaging department and the hospital. This is the level of performance that every student is expected to continually strive for and eventually reach in clinical education.

CURRICULUM

Students spend a minimum of sixteen (16) hours per week in clinical education during the first year (except during Summer I) and twenty-four (24) hours per week during the second year.

Clinical Education includes:

Positioning skills	Patient care skills	Communication	Teamwork
Attendance	Dress code	Professionalism	

Affective domain objectives:

Critical thinking	Problem solving	Adjustment to the clinical environment
Safety in the workplace	Radiation protection	

Students are expected to demonstrate professionalism:

- Provide the standard of care that Harris Health System and the medical imaging profession expect and demand.
- Adhere to ServiceFIRST Interaction Standards
- Present a polished personal appearance
- Arrive prepared with:
  - ✓ Procedures pocket guide (optional)
  - ✓ Notebook
  - ✓ Pen
  - ✓ Anatomic markers (radiography only)
  - ✓ Radiation monitor /Dosimeter
- Report to clinical rotations at scheduled times.
- Report to assigned technologist at the beginning of each rotation.
- Stay in the rotation assigned. (Note: The student must obtain permission to leave the clinical area).
- Be a team player.
- Maintain a clean work area.
- Check to see if anyone needs help in caring for a patient before you leave the area or sit down.
- Backpacks along with text-books are prohibited in all clinical work areas.
- No personal items allowed in patient care areas
- **Cell phones are prohibited** in patient care areas
- Always give your best.

CLINICAL SITES

Clinical Site	Sonography	Radiography
Ben Taub General Hospital (BTGH) 1504 Taub Loop Houston, TX 77030 School Office: 713 873-2248	Main: 713-873-2423 MFM: 713-873-4530	Main: 713-873-2406
Lyndon B. Johnson General Hospital (LBJ) 5656 Kelley St. Houston, TX 77026	Main: 713-566-5459 MFM: 713-566-5935 Echo: 713-566-5927	Main: 713-566-5438
Smith Clinic 2525-A Holly Hall Houston, TX 77054	Main: 713-566-5121 Breast: 713-566-3475	Main: 713-566-5121
Martin Luther King Jr. Health Center 3550 Swingle Road Houston, TX 77047		Main: 713-547-1180
Vallbona Health Center 6630 DeMoss Street Houston, TX 77074		Main: 713-272-2611
Casa de Amigos Health Center 1615 North Main Street Houston, TX 77009		Main: 713-236-7140
Aldine 4755 Aldine Mail Route Houston, TX 77039		Main: 281-985-7577
El Franco Lee 8901 Boone Road Houston, Texas 77099		Main: 281-454-0983

Clinical supervisors and instructors will discuss student responsibilities with the students during clinical education at the beginning of the first clinical rotation.

Student Supervision

Student supervision during clinical education is a responsibility shared by the clinical instructors and the supervising technologists. Students will observe and perform procedures under the supervision of a qualified technologist or radiologist. The parameters of supervision are as follows:

Direct Supervision

Until a student achieves and documents competency in any given procedure, clinical assignments shall be carried out under the direct supervision of a qualified technologist.

The JRCERT defines direct supervision as student supervision by a qualified radiographer who:

- reviews the procedure in relation to the student's achievement,

- evaluates the condition of the patient in relation to the student's knowledge,
- is physically present during the conduct of the procedure, and
- reviews and approves the procedure and/or image.

Students must be directly supervised until competency is achieved. Once students have achieved competency, they may work under indirect supervision. The JRCERT defines indirect supervision as student supervision provided by a qualified radiographer who is immediately available to assist students regardless of the level of student achievement.

Repeat images must be completed under direct supervision. The presence of a qualified radiographer during the repeat of an unsatisfactory image assures patient safety and proper educational practices.

Students must be directly supervised during surgical and all mobile, including mobile fluoroscopy, procedures regardless of the level of competency.

Radiography Students: Students must perform venipuncture, mobile procedures, operative procedures, ER shock room procedures, and advanced imaging modality procedures with direct supervision.

Indirect Supervision
After demonstrating competency in an examination, the student may perform the examination with indirect supervision.

A qualified technologist:
1. Is immediately available to assist students regardless of the student's level of achievement.
   - Immediately available is interpreted as the presence of a qualified technologist in the area or location where the diagnostic procedure is being performed.
2. Reviews the request for examination in relation to the student's level of achievement.
3. Evaluates the condition of the patient in relation to the student's knowledge and level of achievement.
4. Critiques and approves the images.

Repeat Medical Images
In support of our professional responsibility to provide quality patient care and competency, unsatisfactory images will be repeated with direct supervision, regardless of the student's level of competency.

To repeat a medical image a qualified imaging technologist:
1. Determines how to correct the image.
2. Is present during the repeat examination.
3. Critiques and approves the repeat image.

VIOLATION OF THIS POLICY WILL RESULT IN DISCIPLINARY ACTION.

CLINICAL EDUCATION EVALUATION

The program utilizes several methods to evaluate student performance in clinical education to ensure clinical competence.
1. Clinical Performance Evaluations
   a. Biweekly evaluation

i. Student evaluation by assigned technologist
ii. Assigned technologist evaluation by student

b. End semester evaluations

2. Competency Evaluations
3. Clinical Capstone
4. Terminal Competency evaluation

Biweekly Evaluations on Performance

The program utilizes biweekly evaluations to assess both student performance in clinical education and allow the student to give feedback on the site and their assigned technologist.

End of Semester Evaluations

The faculty conducts progress reports at the end of each semester, to evaluate and monitor the students' progress. A student may request clinical performance updates; the clinical coordinator will schedule to meet with student.

Conflict Resolution

Should a conflict arise in clinical education:

1. The student should first address the situation to the supervising technologist or Designated Clinical Instructor (DCI).
2. If the problem is not resolved, the supervising technologist or DCI should notify the school office.
3. Should the resolution not meet the satisfaction of the parties involved, the complaint will then be taken directly to the program director for resolution.
4. The program director must be appraised of all complaints and resolutions that occur.

Clinical Competency

Students must demonstrate competency in the imaging procedures required by the program. Demonstration of clinical competency means that faculty or a technologist has observed the student perform the procedure, independently, consistently, and effectively.

The student must demonstrate competence in:

Requisition evaluation	AIDET	Patient assessment	Room preparation
Patient management	Equipment operation	Exposure factor selection	Positioning
ALARA	Image processing and evaluation		

Steps to Achieving Competency

Following successful completion of classroom instruction and lab evaluation, the student must demonstrate competency in all mandatory procedures. Students may not perform competencies on procedures before successful completion of lab test-out.

1. Didactic Instruction and Evaluation:
   - Unit Lecture/Exam
2. Lab Evaluation:
   - Instruction
   - Observation
   - Practice

- Assessment test-out

3. Clinical Education:
   - Observe the procedure performed by qualified technologist.
   - Perform procedure at least once with direct supervision.
4. Competency evaluation

Radiography Students:

1. The student may be evaluated by faculty or by a technologist.
   a. The first choice must be faculty.
   b. The second choice is a technologist.
2. When the student performs the competency:
   a. Notify faculty or technologist that he/she is ready to perform a competency.
      - Select the procedure from the competency checklist in Trajecsys.
      - Indicate required patient information.
   b. Use assigned student markers.
   c. Perform the procedure independently.
   d. Use appropriate shielding essential for radiation protection.
      - Any student who fails to shield appropriately will fail the competency.
   e. Discuss the evaluation criteria for the procedure.
   f. Identify structures shown on the image.
      - Points will be deducted according to the point distribution for each objective that is not satisfactorily completed.
   g. A final grade will be assigned only after the student has correctly explained the evaluation criteria and identified the structures shown during Image Evaluation.
   h. The Clinical Comp and the Image Evaluation portions must individually achieve a grade of 76% or higher.
3. When the technologist and faculty perform the evaluation:
   a. The technologist will document their evaluation under "Clinical Comp" in Trajecsys.
   b. The faculty will document their evaluation under "Image Evaluation" in Trajecsys. Second year students may have a Designated Clinical Instructor perform the "Image Evaluation" with the approval of faculty.
4. The student may perform the examination with indirect supervision after successfully achieving competency.

Sonography Students:

1. The student may be evaluated by faculty or by a technologist.
   a. The first choice must be faculty.
   b. The second choice is a technologist.
2. When the student performs the competency:
   a. Communicate with supervising technologist or faculty prior to exam that he/she is working on a competency so that images are saved in PACS.
   b. Document the exam in the clinical examination log.
   c. Select the correct competency form.
   d. Completely fill out, sign, and date the competency form.
   e. The limit of accession numbers per competency is determined by the level of progression of the student.
   f. Submit obstetrics and breast competencies to the clinical instructor with:
      - Each image cut to fit portfolio.

- All patient information removed.
- Labeling and initials displayed on each image.

g. The Clinical Comp and the Image Evaluation portions must individually achieve a grade of 76% or higher.

3. The student may perform the examination with indirect supervision after successfully achieving competency.

Proficiencies (Radiography only)

In order to guarantee a student is proficient in the various procedures learned throughout the program, a designated number of proficiencies will be due at the end of each semester. Eligibility for proficiency requires a completed competency of the same exam. Proficiencies may not be duplicated within the same semester. For example, only one PA Chest exam is available for proficiencies each semester. Additional PA Chest exams will not satisfy the requirement. Proficiencies follow the same format and rules as competencies but do not require an image review.

Competency/Proficiency Requirements per Semester (Radiography only)

	Cumulative Competencies	**Proficiencies**
1st Semester	None	None
2nd Semester	6 total (including the PA chest)	4 per semester
3rd Semester	18 total (including the AP abdomen KUB)	6 per semester
4th Semester	30 total (including one fluoroscopy exam)	6 per semester
5th Semester	42 total (including all mandatories)	6 per semester
6th Semester	All 51 competencies must be completed	6 per semester

Delinquencies

Competency and proficiency requirements must be met in order to proceed to the next semester. Completion of all competencies is a graduation requirement. All competencies must be completed according to the clinical education plan (ARRT Competency Checklist).

Failed Clinical Competency Evaluation

A student has two attempts to complete a competency evaluation. If the student does not successfully complete the evaluation on the first attempt, the student must:

- Complete remediation assigned by faculty.
- Practice the examination under direct supervision (documented). Sonography students may perform second attempt under indirect supervision.
- Repeat the competency.

Students must successfully complete all competencies to satisfy requirements for graduation. Students who fail clinical education will be withdrawn from the program.

Clinical Capstone (Radiography only)

The clinical capstone is a comprehensive assessment in which students demonstrate simulations of radiographic procedures identified by the program as essential.

- Capstone is conducted in the second year of the program.
- Clinical capstone is completed in two parts: Summer II and Fall II.
- All students must pass clinical capstone to satisfy graduation requirements.

Failed Clinical Capstone (Radiography students only)

First attempt

A student has two attempts to successfully complete the clinical capstone. If the student does not successfully complete the clinical capstone on the first attempt, the student must:

- Complete remediation.
- Independently review and practice the capstone procedures.
- Schedule practice time with faculty for clarification.
- Repeat the failed procedures.

Second Attempt

If the student fails the second attempt, the student will:

1. Not graduate as scheduled.
2. Need to successfully complete a clinical capstone remediation and exam(s).
3. Need to complete the entire Summer III semester (extended enrollment).
4. Graduate after completing the above requirements.
    a. The student will need to reenroll in the program if the above requirements are not satisfied.

Terminal Competencies

All students must satisfactorily complete the objectives of the terminal competencies at the end of the program to satisfy graduation requirements.

CLINICAL EDUCATION RECORDS

Clinical Documentation (Trajecsys)

As part of the Competency Based Clinical Education (CBCE) plan, the student must maintain clinical documentation in the Trajecsys Reporting System. The digital 'binder' contains an ongoing record of the student's clinical experience, as well as the clinical competency requirements and dates of completion.

1. Information must be maintained daily.
2. Clinical Documentation must include the following:
    a. Clinical syllabus
    b. Clinical competency and proficiency requirements
    c. Competency evaluations
    d. Student evaluations by assigned technologist
    e. Assigned technologist evaluations by student
    f. Examination daily log and skill summary
    g. Clinical performance objectives
3. The program records exam totals as evidence of the student's clinical participation.
4. The faculty will review examination records at the end of the semester and issue a clinical exam log grade.

<u>Unsatisfactory clinical documentation will result in disciplinary action.</u>

Examination Log (Trajecsys)

The examination log is the mechanism used by the program for the students to document clinical participation and clinical supervision.

The student must:

- Document all examinations in which the student participates.
- Document the level of supervision provided for the procedure.
- Provide all pertinent information.

Clinical Education Grade Distribution

Clinical Education I-V:

Category	Weight
Competencies	30%
Proficiencies	20%
Performance Evaluations by Faculty	25%
Clinical Examination Log	10%
Assigned Technologist Evaluation by Student	10%
Student Evaluation by Assigned Technologist	5%

Clinical Education Grading System:

The following grading system is used throughout the program:

Grade	Number Grade	Grade Points
A	94-100	4.0
B	86-93	3.0
C	76-85	2.0
F	Below 75	0.0

Clinical Education Grade Requirements:

Minimum semester average to pass Clinical Education is a 76. Students who fail clinical education will be withdrawn from the program.

APPENDIX I

RADIOGRAPHY CURRICULUM

The radiography program utilizes the radiography curriculum designed by The American Society of Radiologic Technologists (ASRT) and adopted by the ARRT. The curriculum shall include, but is not limited to the following areas:

- Introduction to Radiologic Technology (Includes Medical Ethics and Law and Medical Terminology)
- Introduction to Patient Care
- Methods of Patient Care (Includes Pharmacology)
- Radiographic Procedures I-IV (Includes Human Anatomy and Physiology)
- Principles of Radiographic Exposure I-II
- Radiation Physics
- Radiographic Pathology with Introduction to Cross-Sectional Anatomy
- Advanced Imaging Equipment
- Introduction to Quality Assurance/Quality Control
- Radiation Protection

- Radiobiology
- Evaluation of Radiographs
- Comprehensive Review and Evaluation I-III
- Capstone in Radiography
    - Clinical
    - Didactic
- Competency-Based Clinical Education
    - Clinical Education I-V

Radiography Curriculum

Course	Credit Hours
FIRST YEAR	
First Semester – Summer I	
Introduction to Radiologic Technology	3
Introduction to Patient Care	3
Introduction to Radiographic Procedures I	3
Radiographic Procedures I – Lab	2
SEMESTER TOTAL	**11**
Second Semester - Fall I	
Methods of Patient Care	2
Principles of Radiographic Exposure I	3
Radiographic Pathology with Introduction to Cross-Sectional Anatomy	2
Radiographic Procedures II	3
Radiographic Procedures II – Lab	2
Competency-Based Clinical Education I	2
SEMESTER TOTAL	**14**
Third Semester – Spring I	
Principles of Radiographic Exposure II	3
Radiation Physics	3
Radiographic Procedures III	3
Radiographic Procedures III – Lab	2
Competency-Based Clinical Education II	2
SEMESTER TOTAL	**13**
SECOND YEAR	
Fourth Semester – Summer II	
Comprehensive Review and Evaluation I	3
Evaluation of Radiographs	2
Competency-Based Clinical Education III	3
SEMESTER TOTAL	**8**
Fifth Semester – Fall II	
Comprehensive Review and Evaluation II	3
Radiographic Procedures (Specials) IV	3
Radiation Protection	3
Advanced Imaging Equipment	2
Competency-Based Clinical Education IV	3
SEMESTER TOTAL	**14**
Sixth Semester – Spring II	
Comprehensive Review and Evaluation III	3
Radiobiology	2
Introduction to Quality Assurance/Quality Control	2
Competency-Based Clinical Education V	3
SEMESTER TOTAL	**10**

TOTAL	70

RADIOGRAPHY COURSE DESCRIPTIONS

Advanced Imaging Equipment
This course is designed to provide the student with the knowledge of equipment routinely utilized to produce diagnostic images. Various recording media and techniques are also discussed. Computers in radiologic science are included.

Competency-Based Clinical Education (I-V)
This course is designed to provide the student with the clinical skills necessary to perform as an entry-level technologist. The student will complete the objectives of the structured, competency-based educational plan designed for Harris Health System School of Diagnostic Medical Imaging.

Comprehensive Review and Evaluation I-III
This course is ultimately designed to provide the student with a systematic comprehensive review of all of the coursework completed throughout the program and to prepare the student to successfully complete the ARRT examination on the first attempt. Instruction in career preparation is also included.

Evaluation of Radiographs
Throughout the educational period, students should participate in regular sessions for film evaluation. These sessions are conducted under the supervision of faculty. As the student progresses, the complexity of the images to be evaluated and the level of critique will increase. During the Fall II semester, a formal class in film evaluation is conducted.

Introduction to Patient Care
This course is designed to introduce the radiography student to a more complete understanding of the special needs of patient care in the medical imaging department. This course provides opportunities to develop and /or improve communication skills with both patients and the staff. During this course the students will examine the physical and psychological needs of patients and family, infection control procedures, safety principles, proper body mechanics and vital signs.

Introduction to Quality Assurance and Quality Control
This course introduces the student to a quality assurance program and quality control techniques. This course will provide the student with an introduction to evaluation of radiographic systems to assure quality in the delivery of all aspects of radiographic services. The components involved in the quality improvement system will be identified. State, federal, and professional impacts will be described. Computers in radiologic science are included.

Introduction to Radiologic Technology (Includes Medical Terminology and Medical Ethics & Law)
This course is designed to introduce the student to both medical radiography and the radiography department as a whole. Students will complete the introductory course with a basic understanding of the complexities of general health care, the special dimensions of radiography, and a clear awareness of the unique role and responsibility of the technologist. The course includes basic medical terminology that will enhance student learning of healthcare language.

Methods of Patient Care

This course is designed to introduce the technologist to a complete understanding of special needs of patients in the radiography department. This course provides opportunities to develop and /or improve communication skills with both patients and staff. During the course, the students will examine safety principles, emergency situation and first aid, infection control, medications and contrast media and reactions, pharmacology and drug administration, patient preparation and patient care in mobile radiography. ARRT General Patient Care -Vital Sign and Crash Cart Competencies will be completed as a course requirement.

Principles of Radiographic Exposure I
This course introduces the student to the principles of radiographic imaging and the factors that control radiographic exposure in analog and digital imaging. The following topics will be included: the x-ray tube construction and x-ray production, photographic and geometric properties of the radiographic image, and the production and control of scatter radiation.

Principles of Radiographic Exposure II
The course introduces the student to image receptors, exposure factor selection and the essentials of image formation and processing in analog and digital imaging.

Radiation Physics
This course introduces the student to x-ray production, basic circuits, methods of rectification, construction of x-ray tubes, and the structure and function of x-ray equipment. Units of measurement, the physical concept of energy, the structure of matter, electrostatics, electrodynamics, magnetism, electromagnetism, and electric generators and motors will be included.

Radiographic Pathology with Introduction to Cross-Sectional Anatomy
This course provides a general survey of medical and surgical diseases encountered in diagnostic radiography. Basic cross sectional anatomy will be included

Radiographic Procedures I-III
This course is designed to provide the student with knowledge of positioning skills necessary to perform standard radiographic procedures and a summary knowledge of special studies. This course includes lab exercises to compliment the didactic portion of the course. Radiographic evaluations are included.

Radiographic Procedures IV – (Special Radiographic Procedures)
This course is designed to study procedures not considered common to routine radiographic procedures. Often these procedures involve the use of contrast media and sterile procedures and require a physician to perform the exam. Students will be introduced to the anatomy of the body to be examined, patient preparation, equipment, contrast media, indications, contraindications, procedures and imaging sequence.

Radiographic Procedures Lab I-III: Corresponds with the Radiographic Procedures Class being taught in the same semester.

Radiation Protection
This course will provide the student with an overview of the principles of radiation protection, including the responsibilities of the technologist for patients, personnel, and the public. Radiation

health and safety requirements of federal and state regulatory agencies, accreditation agencies and healthcare organizations will be presented.

Radiobiology

This course will include an overview of the principles of the interaction of radiation with living systems. Radiation effects on biological molecules, cells, tissues and the body as a whole are presented. Factors affecting biological response are presented, including acute and chronic effects of radiation.

CLINICAL RESPONSIBILITIES AND OBJECTIVES

Clinical rotation schedules are posted in the school office and the clinical areas.
Any changes to the scheduled rotations require the approval of program administration.

Clinical rotations

In the course of the program, the student is given the opportunity to rotate through each of the following clinical areas:

- General Diagnostic
- Emergency Center
- Fluoroscopy
- Surgery/OR
- Portables/Mobile Radiography
- Bone Clinic
- Computed Tomography (CT)
- Interventional Radiography
- Bone Densitometry
- Cardiac Cath Lab
- Ultrasound (elective)
- Informatics (PACS) (elective)
- Biomedical Engineering (elective)
- Magnetic Resonance Imaging (MRI) (elective)
- Nuclear Medicine (elective)
- Mammography (elective)
- Radiologic Science Education (elective)
- Administration (elective)

General Requirements

- Correctly use two (2) identifiers for patient identification
- Correctly select patients from the network and local worklists
- Use appropriate CR/DR for image acquisition
- Correctly annotate information on digital images as required
- Correctly operate IP readers to include basic maintenance of IPs

The student will:

- Requisition Evaluation
  - Locate and verify the patient's name, gender, age, accession number, and medical record number
  - Locate and verify radiographic procedure(s) to be performed
  - Locate and verify the mode of transportation
  - Identify clinical indications or pathological conditions listed
  - Note any special patient handling instructions or precautions
- Exam Room Preparation
  - Assemble correct supplies for procedure
  - Organize and stock cabinets with supplies, linens, and all accessories
  - Clean equipment, table, and accessories
- Patient Assessment

- Introduce self to patient
- Verify the correct patient using no less than two identifiers: i.e. wristband and patient to verify name/date of birth
- Verify patient preparation i.e. NPO.
- Check for indications or contraindications for the examination (pathology, allergies, pregnancy, etc.)
- Secure patient's belongings in the radiography department
- Safely transfer patient with assistance
- Assess and monitor patient's condition at regular intervals
- Assure that the patient is not left unattended

- Patient Management
  - Explain the examination
  - Give clear concise instruction on patient transfer
  - Communicate proper instructions during the examination
  - Give correct breathing instructions
- Equipment Operation
  - Correctly manipulate equipment
  - Properly operate and set console
  - Use appropriate SID and central ray (CR) angulations for procedures
  - Align CR with image receptor (IR)
  - Manipulate tube to demonstrate part of interest
  - Select and use the proper size IR for the part being examined
  - Use the correct L and R anatomic student markers
  - Use appropriate annotations as required for special procedures (e.g. small bowel series, IVU's etc.)
- Technique Selection
  - Measure patient to determine part thickness
  - Utilize technique chart to determine correct exposure
  - Adjust exposure factors to accommodate for equipment, age, body habitus, and pathology
- Positioning
  - Perform procedures with confidence
  - Position the patient correctly on the table or upright image receptor, stretcher, or wheelchair
  - Position the part to adequately demonstrate area of interest
  - Align area of interest to CR and IR
- Radiation Protection
  - Wear radiation monitor correctly as instructed
  - Collimate as required
  - Use gonadal shields for patients when appropriate
  - Wear lead apron and gloves when appropriate
  - Close doors to exam rooms during x-ray exposure
  - Protect visitors and other personnel from unnecessary radiation
  - Have technologist approve all imaging procedures
- Image Processing
  - Complete all post-processing requirements
  - Be knowledgeable of the CQI monitors being conducted and perform at or above the level indicated by the monitor
  - Track procedures in Epic

- Image Evaluation
  - Identify correct positioning, degree of rotation and anatomy
  - Identify acceptable image quality
  - Suggest corrective measures to improve image

General Diagnostic Routines/Emergency Center (EC)

Upon completion of this rotation, the student must be able to:

- Clean exam rooms and work- sort area
- Stock rooms with supplies and linen
- Make sure there is a hamper with a clean bag in each room
- Be knowledgeable of departmental protocol for performing procedure
- Practice ALARA
- Properly dismiss the patient
- Review images with technologist before he/she sends the images to PACS
- Track procedures to leave department status in the Epic system
- Record procedure in the clinical examination log
- Be knowledgeable of CQI

Orthopedic Radiography – Bone Clinic

Upon completion of this rotation, the student must be able to:

- Clean exam rooms and work- sort area
- Clean all equipment
- Stock rooms with supplies and linen
- Make sure there is a hamper with a clean bag in each room
- Perform procedures common to Ortho Radiography rotation
- Practice ALARA
- Track procedures to leave department status in the Epic system
- Record procedure in the clinical examination log
- Properly dismiss the patient
- Be knowledgeable of CQI

Portables

Upon completion of this rotation, the student must be able to:

- Remain with the technologist assigned to portables
- Perform procedures with **direct supervision**
- Determine correct IPs and equipment necessary for procedure (e.g. grids and decubitus boards)
- Identify and adhere to isolation or special handling instructions
- Practice standard precautions, patient care, and radiation protection at all times
- Correctly position the portable machine by patient's bed or stretcher side
- Correctly place IP in protective cover and under patient for exam
- Correctly position the part to be examined
- Select correct exposure factors
- Alert nearby staff before making exposure
- Place patient back in a comfortable position
- Carefully manipulate all equipment
- Clean portable machine
- Practice ALARA

- Protect self and others from radiation exposure by using cardinal rules of radiation protection (time, distance, and shielding)
- Maintain lead apron(s) with machine
- Turn off or charge portable equipment when it is not being used
- Return portable machine, equipment and supplies to assigned location
- Annotate images with correct information
- Track procedures to leave department status in the Epic system
- Record procedure in the clinical examination log
- Be knowledgeable of CQI

Surgery

Upon completion of this rotation, the student must be able to:

- Remain with the technologist assigned to surgery
- Perform procedures with direct supervision
- Be available for all surgery cases in which radiography is requested
- Dress appropriately for surgery
    - Surgical attire specified in "Dress Code" in student handbook
    - Wear hair and shoe covers
    - Wear mask when in the surgery suite (during the procedure)
    - If you have to leave out of the surgery area during the day
        - Wear a lab coat to cover surgical scrubs
        - Remove shoe covers, hat, and mask before leaving area
- Clean all imaging equipment and accessories before and after each surgical procedure.
- Maintain supplies
- Correctly manipulate both the portable and C-arm equipment into and out of the OR room without contaminating the sterile field
- Select proper exposure factors
- Select correct IPs (portables)
- Demonstrate sterile technique
- Protect self and others from radiation exposure by using cardinal rules of radiation protection (time, distance, and shielding)
- Inform staff when exposure is about to be made or is being made
- Manipulate the locks and steer c-arm during a routine surgical procedure
- Print digital images when necessary
- Process C-arm or digital images
- Correctly generate the surgery requisition
- Track procedures to leave department status in the Epic system
- Record procedure in the clinical examination log
- Be knowledgeable of CQI

Fluoroscopy

Upon completion of this rotation, the student must be able to:

- Clean exam rooms and work- sort area
- Stock rooms with supplies and linen
- Make sure there is a hamper with a clean bag in each room
- Remain with the technologist during examination
- Perform procedures with direct supervision

- Practice ALARA
- Protect self and others from radiation exposure by using cardinal rules of radiation protection (time, distance, and shielding)
- Maintain lead apron(s) (full body, waist, and thyroid)
- Clean all imaging equipment and accessories before and after each fluoroscopic procedure.
- Maintain supplies Assist technologist and radiologist with fluoroscopic procedures
- Select correct examination supplies
- Demonstrate sterile technique
- Protect self and others from radiation exposure by using cardinal rules of radiation protection (time, distance, and shielding)
- Track procedures to leave department status in the Epic system
- Record procedure in the clinical examination log
- Be knowledgeable of CQI

Computed Tomography

Upon completion of this rotation, the student must be able to:

- Adequately assess patient
- Identify specific safety aspects of CT
- Identify components of CT system
- Discuss functions of all CT equipment
- Identify the contrast medium used in CT
- Locate supplies for daily use
- Discuss protocols for CT scans
- Identify and locate landmarks used in centering for CT scans of the head, chest, abdomen and pelvis
- Position the patient on the table for head and abdomen scans
- Load power injector
- Manipulate table controls
- Change head and abdomen cradle
- Differentiate between abdominal CT and head CT procedures
- Identify cross-sectional anatomy in the brain and abdomen
- Bring the scan menu up and type in patient information
- Explain the procedure(s) to the patient
- Complete procedures in the computer
- List patients in log book
- Clean the equipment correctly
- Locate supplies in room
- Stock room with supplies and linen
- Keep room neat and organized for routine scans
- Be knowledgeable of CQI

Magnetic Resonance Imaging

Upon completion of this rotation, the student must be able to:

- Locate supplies for daily usage
- Identify and discuss specific safety aspects of MRI
- Identify components of MRI system
- Identify functions of all MRI equipment

- List the systems used for patient monitoring
- Identify the contrast medium used in MRI
- Discuss different protocols for MRI scans
- Instruct patient on proper dressing procedure
- Assist patient into the room
- Give a basic explanation of procedure to be performed
- Identify and demonstrate landmarks used in centering patients for MRI scans
- Clean room and equipment properly
- Stock room up with supplies and linen
- Be knowledgeable of CQI

Interventional Radiography/Special Procedures

Upon completion of this rotation, the student must be able to:

- Assist with the stocking the rooms
- Discuss patient preparation for each procedure performed
- Discuss the importance of informed consent
- Assist in setting up for a procedure
- Differentiate between sterile and a non-sterile field
- Set up a sterile tray
- Assist in a sterile procedure without contaminating the field
- Explain procedure to patient
- Identify vascular anatomy
- Discuss the procedures performed in IR
- Differentiate between the types of guide wires and catheters
- Be knowledgeable of CQI

Cardiac Catheterization Lab

Upon completion of this rotation, the student must be able to:

- Assist with the stocking up of the room
- Identify the importance of informed consent
- Identify if there is any necessary patient prep
- Assist in setting up for a procedure
- Be knowledgeable of the correct use of the power injector
- Correctly set up a sterile tray
- Differentiate between sterile and non-sterile fields
- Assist in a sterile procedure without contamination
- Correctly enter new patients into the imaging system
- Correctly manipulate the C-arm and table
- Explain the procedure to the patient
- Identify cardiac anatomy and vasculature
- Correctly close the procedure and send images to the archiving system
- Identify the different procedures
- Identify the different types of guide wires and catheters
- Be knowledgeable of radiation protection and safety in the cath lab
- Be knowledgeable of CQI

Ultrasound (Elective)

Upon completion of this rotation, the student must be able to:

- Identify the different types of ultrasound procedures perform in the ultrasound department
- Identify the appropriate questions asked for each procedure
- Read a requisition and determine the procedure needed
- Prepare patient for procedure
- Assist patient into a room
- Identify the orientations of scanning
- Observe at least one of each routine procedure
- Properly demonstrate turning on and off the ultrasound system
- Explain the different types of patient prep for routine procedures in ultrasound
- Identify types of probes/transducers used and their purposes.
- Explain how to care for the transducers/probes.
- Explain and demonstrate the correct methods of switching transducers.
- Explain the relationship between frequency, resolution and depth penetration.
- Explain why it is difficult to scan through bowel gas and how to overcome it.
- Identify the different Doppler modalities.
- Explain the significance of gel in scanning
- Fill gel bottles
- Stock the rooms with linen and supplies
- Be knowledgeable of CQI

Nuclear Medicine (Elective)

Upon completion of this rotation, the student must be able to:

- Practice appropriate radiation safety
- Stock room with linen and supplies
- Dress patient for procedure
- Properly explain the procedure to patient
- Identify the different radiopharmaceuticals; Explain the difference in their functions
- Differentiate cardiac studies and stress test
- Discuss ventilation perfusion studies
- Discuss general studies performed
- Identify the different cameras
- Explain the difference in their functions
- Be knowledgeable of CQI

Mammography (Elective)

Upon completion of this rotation, the student must be able to:

- Clean the mammography unit.
- Clean the mammography IPs.
- Load and unload IPs in the CR reader.
- Assist and explain the daily quality control process.
- Assist patient with dressing for procedure.
- Assist patient with history/questionnaire.
- Identify the proper positioning projection.
- Identify normal breast anatomy.
- Identify the diagnostic procedures performed in mammography.

- Perform CC and MLO projections.
- Assist with needle localization
- Assist with stereotactic Biopsy
- Discuss galactography
- Track and charge for procedure in the RIS
- Be knowledgeable of CQI

Informatics (Elective)
Upon completion of this rotation, the student must be able to:

- Learn the components of a PC workstation
- Learn the standard radiography information system integration with the hospital information system
- Understand how Picture Archiving and Communications System (PACS) benefits the radiography department
- Learn the computer applications used in the Imaging Department
- Learn the importance of the Accession Number
- Learn how to look for incorrect or abnormal data in all radiography computer applications
- Understand the image workflow (Acquisition, Dictation, and Radiologists Signoff)
- Observe and assist in data correction (images and results)

Radiography Education (Elective)
Upon completion of this rotation, the student must be able to:

- Understand the process of curriculum design
- Explain the process of syllabus preparation
- Explain the process of lesson preparation
- Learn and understand the process of assessment and evaluation of educational outcomes
- Expand on professional development by observing the demands of an instructor and learn the practice of decision making in medical imaging education (Deliverables: Provide journal entries on decisions and results as well as reflection and comments on what I would do the same/different and expected outcomes of such a decision).

Biomedical Engineering (Elective)
Upon completion of this rotation, the student must be able to:

- Identify the daily tasks of a biomedical engineer
- Identify the various medical equipment of the imaging department
- Assist in ensuring that all medical equipment is operating in a safe manner
- Recognize the testing tools used for medical equipment maintenance and repair
- Observe and assist in electrical safety checks of the medical equipment
- Assess asset tag expiration on various radiologic equipment
- Identify risk levels for medical equipment based upon manufacturer's recommendations and criteria
- Observe the removal of outdated or the installation new medical equipment in the imaging department (if applicable)

Faculty

John Donahue, MSRS, R.T.(R)(ARRT)
Wilson Phung, BA, R.T.(R)(MR)(ARRT)

Christina Bonilla, MBA, R.T.(R)(CT)(ARRT)

Clinical Coordinators

Wilson Phung, BA, R.T.(R)(MR)(ARRT)
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Georgette Jones, BSRS, R.T.(R)(ARRT)
Gwendolyn Alexander, R.T.(R)(ARRT)
Gracy Koshy, R.T.(R)(ARRT)
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APPENDIX II

SONOGRAPHY CURRICULUM

The sonography program utilizes the sonography curriculum designed by The Joint Review Commission on Education in Diagnostic Medical Sonography (JRC-DMS) and adopted by the ARDMS. The curriculum shall include, but is not limited to the following areas:

- Introduction to Sonography
- Superficial Structures & Advanced Practices
- Introduction to Vascular Sonography
- Advanced Ultrasound Physics and Instrumentation
- Scan Lab I-III
- Competency-Based Clinical Education
    - Clinical Education I-V
- Abdomen I-II
- Obstetrics and Gynecology I-III
- Basic Ultrasound Physics and Instrumentation
- Case Studies
- Comprehensive Review and Evaluation I-II

Sonography Curriculum

Course	Credit Hours
FIRST YEAR	
First Semester – Summer I	
Abdominal Sonography I	6
Introduction to Sonography	3
Sonography Lab I	2
SEMESTER TOTAL	**11**
Second Semester - Fall I	
Obstetrics/Gynecology Sonography I	4
Basic Physics/Instrumentation	4.5
Sonography Lab II	2
Competency-based Clinical Education I	2
SEMESTER TOTAL	**12.5**
Third Semester – Spring I	
Superficial Structures & Advanced Practices	4.5
Obstetrics/Gynecology Sonography II	4
Advanced Physics/Instrumentation	4
Sonography Lab III	2
Competency-based Clinical Education II	2
SEMESTER TOTAL	**16.5**
SECOND YEAR	
Fourth Semester – Summer II	
Comprehensive Review I	6
Competency-based Clinical Education III	4
Introduction to Vascular Sonography	6
SEMESTER TOTAL	**16**
Fifth Semester – Fall II	
Abdomen Sonography II	4
Obstetrics/Gynecology Sonography III	4
Competency-based Clinical Education IV	3
SEMESTER TOTAL	**11**
Sixth Semester – Spring II	
Comprehensive Review II	8
Sonographic Case Studies	6
Competency-based Clinical Education V	3
SEMESTER TOTAL	**17**
TOTAL	**84**

SONOGRAPHY COURSE DESCRIPTIONS:

Abdominal Sonography I-II
Lecture, class discussions, and demonstrations emphasizing key medical terminology, anatomy and physiology as it relates to the abdomen, small and superficial parts, pathologies and disease states of the abdomen as it relates to scanning techniques, patient history, laboratory data, transducer selection, and scanning protocols. Also, evaluation of the abdomen and small parts as it relates to sonographic appearance and technique and pathologies and disease states of the neonate and pediatric abdomen and small parts.

Advanced Ultrasound Physics & Instrumentation
This course provides instruction of advanced topics in ultrasound physics and instrumentation. Students will focus on the concepts of Doppler technology, Harmonics imaging and the physics of normal and diseased blood flow. Students will continue their study of Sonographic instrumentation to include temporal resolution, imaging artifacts, quality assurance, and potential bioeffects.

Basic Ultrasound Physics & Instrumentation
This course provides fundamental knowledge of the physical principles and instrumentation used in medical sonography. Students will focus on the complexities of high-frequency acoustic energy and the application of this understanding to acquire diagnostic images. An in-depth study of diagnostic pulse-echo instrumentation and proper usage will be stressed. This class is a foundation to prepare students for more advanced principles.

Competency-based Clinical Education I-V
Students will apply sonographic techniques learned in class and lab to the clinical setting. Students will be expected to demonstrate clinical competency and increasing proficiency in skill level. Students will be expected to demonstrate a high level of professionalism.

Comprehensive Review and Evaluation I-II
Students will review and prepare for the American Registry of Diagnostic Medical Sonographers (ARDMS) abdominal registry examinations. Special emphasis will be placed exam specific material and successful test taking techniques. Students will be required to pass written capstone exams for abdominal and OB/GYN sonography.

DMSO Clinics I-V:
Students will apply Sonographic techniques learned in class and lab to the clinical setting. Students will be expected to demonstrate clinical competency and increasing proficiency in skill level. Students will be expected to demonstrate a high level of professionalism. (Prerequisite: Admission to the program).

Introduction to Sonography
This course will include lecture, class discussions, demonstrations and reading assignments, which allows the student an introduction to medical sonography. Topics such as patient care, safety issues, communications, and medical ethics will be discussed. Professionalism development and lifelong learning will be emphasized. The student will also demonstrate a fundamental knowledge of basic medical terminology as it relates to the medical sonography professions.

Introduction to Vascular Sonography

In this course students are introduced to the specialized imaging field of non-invasive vascular sonography. Students will focus on the anatomy, pathology, physiology, imaging protocols, and proper scan techniques of the extracranial vessels and vessels of the upper and lower extremities. This course also introduces the student to adult echocardiography.

Obstetrics & Gynecology I-III
This class provides a detailed study of the pelvis and obstetrics/gynecology as related to ultrasound scanning techniques, patient history and laboratory data, transducer selection, scanning protocols, maternal disease, and fetal abnormalities.

Sonography Case Studies
This student participatory class examines pathological states of the human body as related to clinical sonography. Patient history, laboratory data, and imaging protocols will be presented and discussed.

Sonographic Lab I-III
Students will be instructed in normal sonographic scanning protocols. Students will perform these ultrasound scans in the laboratory. The scanning protocols for abdominal, obstetrical, gynecological, and vascular sonography will be stressed.

Superficial Structures & Advanced Practices
Lecture, class discussions, and demonstrations emphasizing key medical terminology, anatomy and physiology as it relates to normal and abnormal superficial structures. Also, evaluating and exploring advanced sonographic practices such as neonatal neurosonology and ultrasound guided surgical procedures.

CLINICAL RESPONSIBILITIES AND OBJECTIVES

By the end of the program the student should be able to:

- Use two Identifiers to identify the correct patient.
- Apply appropriate communication skills with patients.
- Explain proper patient preparation for a medical sonogram.
- Instruct the patient in proper dressing protocol.
- Demonstrate how to take a proper patient history as pertaining to various sonographic procedures.
- Uses resources to look up previous testing data that is relevant to the sonographic procedure.
- Evaluates the relevance of previous lab and testing data to the sonographic procedure.
- Applies proper patient transfer techniques to and from the sonographic exam table.
- Applies good patient safety practices.
- Understands the concepts of HIPAA and applies patient confidentiality to the healthcare setting.
- Applies appropriate infection control practices in the health care setting.
- Demonstrates respect for the student-faculty relationship by following instructions and clinical policies.
- Demonstrate respect by formally addressing the staff.
- Applies professional qualities by demonstrating good attendance.
- Applies professional qualities by using correct medical terminology in the clinical setting.
- Demonstrates a positive attitude consistent with the values of the healthcare industry and ultrasound education.

- Applies appropriate communication skills with the healthcare staff.
- Utilizes the clinical telephones and computers in an appropriate respectful manner.
- Demonstrates responsibility by keeping the clinical binder up to date and in order.
- Applies critical thinking to present relevant information to the radiologist.
- Assumes responsibility for learning by taking advantage of learning opportunities in the clinic setting.
- Demonstrates good occupational safety and ergonomic practices.
- Demonstrates the benefit of a survey scan before documenting images.
- Selects the appropriate transducer for the sonographic exam.
- Enters the appropriate information into the ultrasound computer.
- Applies knowledge of optimal image acquisition by correctly adjusting the image depth.
- Applies knowledge of optimal image acquisition by correctly adjusting the image gain.
- Applies knowledge of optimal image acquisition by correctly adjusting the focal depth and number of focal zones.
- Selects the appropriate annotation to represent the proper organ, scan plane, and additional necessary information.
- Applies the appropriate uses of PW Doppler.
- Applies the appropriate uses of Color/Power Doppler.
- Applies the appropriate uses of M-Mode.
- Identifies the indication for sonographic procedures.
- Utilizes various patient positions to optimize the sonographic exam.
- Applies appropriate use of electronic calipers to measure anatomy and pathology.
- Applies understanding of the abdominal protocol by performing abdominal sonograms unassisted.
- Applies understanding of the pelvic protocol by performing pelvic sonograms unassisted.
- Performs endo-vaginal sonograms unassisted.
- Applies understanding of the obstetric protocol by performing obstetric sonograms unassisted.
- Applies knowledge of appropriate fetal measurements to calculate fetal growth.
- Applies understanding of the thyroid protocol by performing thyroid sonograms unassisted.
- Applies understanding of the scrotal protocol by performing scrotal sonograms unassisted.
- Applies understanding of the breast protocol by performing breast sonograms unassisted
- Modifies the Sonographic exam to accommodate various technical conditions.
- Differentiates between the sonographic appearances of different organs.
- Distinguish between normal and abnormal sonographic findings.
- Demonstrates proper uses PACS.
- Demonstrates proper transducer and sonographic equipment care.

Clinical Education I – V Syllabus

Faculty

Georgette Shepherd BHSc, ARDMS, ARRT
James Norsworthy, RDMS AB, RVT, OB/GYN R.T.(R)(ARRT)
Jessica Adger, RDMS AB, OB/GYN

Clinical Coordinator:

James Norsworthy, RDMS AB, RVT, OB/GYN R.T.(R)(ARRT)
Jessica Adger, RDMS AB, OB/GYN

Supplies

Clinical binder, OB pockets guide, Notebook, and Pen.

Clinical Instructors or DCI's (Designated Clinical Instructor)

Ben Taub	Ernesto Rodriguez	713-873-2423
Ben Taub MFM	Sangita Doshi	713-873-4530
Ben Taub IR	Steven Fontenot	713-873-2418
Smith Clinic	Shana Lee	713-566-5121
Smith Breast Clinic	Sepanta Shamel	713-566-3475
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COMPETENCY REQUIREMENTS

Students must demonstrate competency in core sonographic procedures. These procedures include:

Professional qualities	Abdomen Complete	Pelvic-Transabdominal
Pelvic-Transvaginal	Ob/Gyn first trimester	Ob/Gyn second trimester or third trimester
Breast	Thyroid	Scrotum
Prostate	Carotid	Non-cardiac chest or Thoracentesis
Neurosonology	Venous	

COMPETENCIES BY SEMESTER

Semester II Clinical Competency	**Number per Semester**
Abdomen Sonogram	1
Semester III Clinical Competency	**Number per Semester**
Abdomen Sonogram Trans Abdominal Pelvic Sonogram Small Part Sonogram: Thyroid, Breast, Prostate or Scrotum	1 1 1
Semester VI Clinical Competency	**Number per Semester**
Abdomen Sonogram Trans Abdominal/Trans Vaginal Pelvic Sonogram Small Part Sonogram: Thyroid, Breast, Prostate or Scrotum	1 1 1
Semester V Clinical Competency	**Number per Semester**

Abdomen Sonogram	1
Trans Abdominal/Trans Vaginal Pelvic Sonogram	1
Small Part Sonogram: Thyroid, Breast, Prostate or Scrotum	1 1
Unilateral Lower Extremity Venous Sonogram	1
Unilateral Carotid Sonogram	
Semester VI Clinical Competency - Capstones	**Number per Semester**
Abdomen Sonogram	1
Trans Abdominal/Trans Vaginal Pelvic Sonogram	1
Small Part Sonogram: Thyroid, Breast, Prostate or Scrotum	1 1
Bilateral Lower Extremity Venous Sonogram	1
Bilateral Carotid Sonogram	1 (by graduation)
OB/Gyn Sonogram – 1st trimester	1 (by graduation)
Non-cardiac chest	1 (by graduation)
Neurosonology	

Maternal Fetal Medicine (MFM) (Mandatory)

Upon completion of this rotation, the student must be able to:

- Locate supplies for daily usage
- Identify specific safety aspects clinically for Obstetrical (OB) Sonography
- Identify components utilized to perform an OB, demonstrate skills with technologist as much as allowed
- Discuss different protocols for OB scans
- Instruct patient on proper dressing procedure
- Assist patient into the room
- Give a basic explanation of procedure to be performed , if allowed
- Identify and demonstrate landmarks used in OB
- Clean room and equipment properly
- Stock room up with supplies and linen
- Be knowledgeable of the some of the most common symptoms and diagnosis for OB
- Identify specific protocols and/or views utilized during an OB
- Utilize MFM specialty rotation to complete OB competencies in Sonography

Breast Ultrasound SMITH (Mandatory)

Upon completion of this rotation, the student must be able to:

- Locate supplies for daily usage
- Identify specific safety aspects clinically for an Breast Sonogram
- Identify components utilized to perform an Breast Sonogram or Breast Biopsy, demonstrate skills with technologist as much as allowed
- Discuss different protocols for Breast Sonography scans
- Instruct patient on proper dressing procedure
- Assist patient into the room
- Give a basic explanation of procedure to be performed , if allowed
- Identify and demonstrate landmarks used in Breast Sonography

- Clean room and equipment properly
- Stock room up with supplies and linen
- Be knowledgeable of the some of the most common symptoms and diagnosis for Breast Sonography/Breast Biopsies
- Identify specific protocols and/or views utilized during an Breast Sonography

Echocardiogram/Echo (Elective)

Upon completion of this rotation, the student must be able to:

- Locate supplies for daily usage
- Identify specific safety aspects clinically for an Echo
- Identify components utilized to perform an Echo
- Discuss different protocols for Echo scans
- Instruct patient on proper dressing procedure
- Assist patient into the room
- Give a basic explanation of procedure to be performed , if allowed
- Identify and demonstrate landmarks used in Echo
- Clean room and equipment properly
- Stock room up with supplies and linen
- Be knowledgeable of the some of the most common symptoms and diagnosis for Echo
- Identify specific protocols and/or views utilized during an Echo

Magnetic Resonance Imaging (Elective)

Upon completion of this rotation, the student must be able to:

- Locate supplies for daily usage
- Identify specific safety aspects of MRI
- Identify components of MRI system
- Identify functions of all MRI equipment
- List the systems used for patient monitoring
- Identify the contrast medium used in MRI
- Discuss different protocols for MRI scans
- Instruct patient on proper dressing procedure
- Assist patient into the room
- Give a basic explanation of procedure to be performed
- Identify and demonstrate landmarks used in centering patients for MRI scans
- Clean room and equipment properly
- Stock room up with supplies and linen
- Be knowledgeable of CQI

Informatics (Elective)

Upon completion of this rotation, the student must be able to:

- Learn the components of a PC workstation
- Learn the standard radiography information system integration with the hospital information system
- Understand how Picture Archiving and Communications System (PACS) benefits the radiography department
- Learn the computer applications used in the Imaging Department
- Learn the importance of the Accession Number

- Learn how to look for incorrect or abnormal data in all radiography computer applications
- Understand the image workflow (Acquisition, Dictation, and Radiologists Signoff)
- Observe and assist in data correction (images and results)

Sonography Education (Elective)
Upon completion of this rotation, the student must be able to:

- Understand the process of curriculum design
- Explain the process of syllabus preparation
- Explain the process of lesson preparation
- Learn and understand the process of assessment and evaluation of educational outcomes
- Expand on professional development by observing the demands of an instructor and learn the practice of decision making in medical imaging education (Deliverables: Provide journal entries on decisions and results as well as reflection and comments on what I would do the same/different and expected outcomes of such a decision).

Biomedical Engineering (Elective)
Upon completion of this rotation, the student must be able to:

- Identify the daily tasks of a biomedical engineer
- Identify the various medical equipment of the imaging department
- Assist in ensuring that all medical equipment is operating in a safe manner
- Recognize the testing tools used for medical equipment maintenance and repair
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