School of Diagnostic Medical Imaging

Student Handbook

Revised January 2019
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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.
Harris Health System is accredited by DNV Healthcare Inc.
400 Technecenter Dr. Suite 100
Milford, Ohio 45150
513-747-8334 www.dnvaccreditation.com

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 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
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 Radiology Department and the policies of Harris Health System.

ADMINISTRATION: FACULTY, STAFF AND ADVISORS

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>Cleveland Black, EdD, RT(R) (CT)(MR) (ARRT)</td>
<td>Administrative Director of Education/Faculty - Advisor</td>
</tr>
<tr>
<td>Georgette Shepherd, BHSc, RT (R) (M) (ARRT), ARDMS, AB, BR, OB/GYN</td>
<td>Sonography Program Director/Faculty - Advisor</td>
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<tr>
<td>S. Jeanifeer Lara, MSRS, RT (R)(MR)(ARRT)</td>
<td>Radiography Program Director/ Faculty - Advisor</td>
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<tr>
<td>Zita Witte MD</td>
<td>Medical Director – Advisor</td>
</tr>
<tr>
<td>Jamie Tucker, EdD RT(R)(CT)(ARRT)</td>
<td>Faculty/ Clinical Coordinator- Advisor</td>
</tr>
<tr>
<td>John Donahue, MSRS, RT(R)(ARRT)</td>
<td>Faculty/ Clinical Coordinator- Advisor</td>
</tr>
<tr>
<td>James Norsworthy, RDMS AB, RVT, VT RT (R)(ARRT)</td>
<td>Faculty/ Clinical Coordinator- Advisor</td>
</tr>
<tr>
<td>Sharonda Adkins, BSRS, RT (R)(ARRT)</td>
<td>Clinical Faculty- Radiography Advisor/ Aldine</td>
</tr>
<tr>
<td>Gwen Alexander, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor/LBJ</td>
</tr>
<tr>
<td>Hector Chavarria, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor / LBJ</td>
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<tr>
<td>Pamela Eilers, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor/ BT</td>
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<tr>
<td>Georgette Jones, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor / LBJ</td>
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<tr>
<td>Gracy Koshy, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor / Smith</td>
</tr>
<tr>
<td>Annamma Kuriakose, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor/ BT</td>
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<tr>
<td>Kimberly Jackson, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor/ Casa De Amigos</td>
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<tr>
<td>Norma Martinez, AA, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor/ El Franco Lee/ Vallbona</td>
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<tr>
<td>Dalia Vazquez, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor/LBJ</td>
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<tr>
<td>Demetria West, RT (R)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor/ MLK</td>
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<tr>
<td>Steven Fontenot, RT (R)(VI)(ARRT)</td>
<td>Clinical Faculty - Radiography/Sonography IR/ BT</td>
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<tr>
<td>Matthew Owen, RT (R)(VI)(ARRT)</td>
<td>Clinical Faculty - Radiography/Sonography IR/ BT</td>
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<tr>
<td>Lalitha Valluru, RT (R)(ARRT)</td>
<td>Clinical Faculty - Radiography/Sonography IR/ LBJ</td>
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<tr>
<td>Tony Thomas, RT(R)(CT)(MR)(ARRT)</td>
<td>Clinical Faculty – Radiography Advisor / LBJ</td>
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<tr>
<td>Nancy Allen, RDMS AB</td>
<td>Clinical Faculty – Sonography Advisor/ BT</td>
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<tr>
<td>James Bedi, RDMS AB, OB/GYN, RVT, VT</td>
<td>Clinical Faculty – Sonography Advisor/ LBJ</td>
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<tr>
<td>William Hendricks, RDMS</td>
<td>Clinical Faculty - Advisor /LBJ</td>
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<tr>
<td>Mary Lou Kirves, RDMS OB/GYN</td>
<td>Clinical Faculty - Advisor/BT MFM</td>
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<tr>
<td>Patty Patrick, RDMS AB, OB/GYN, RVT, VT</td>
<td>Clinical Faculty - Advisor /LBJ MFM</td>
</tr>
<tr>
<td>Shana Prevost, RT(R), RDMS, AB, OB/GYN</td>
<td>Clinical Faculty - Advisor / Smith Clinic</td>
</tr>
<tr>
<td>Terri Vu, RDMS Ab, BR, OB/GYN</td>
<td>Clinical Faculty - Advisor / Smith Clinic</td>
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</tbody>
</table>

ADMINISTRATIVE COMMITTEE:

- Cleveland Black, EdD, RT(R) (CT)(MR)(ARRT)
- S. Jeanifeer Lara, MSRS, RT (R)(MR)(ARRT)
- Georgette Shepherd, BHSc, RT (R) (M) (ARRT), ARDMS, AB, BR, OB/GYN

Purpose of administrative committee:

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 (sonography) 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.

http://www.sdms.org/about/who-we-are/code-of-ethics

PROGRAM DESCRIPTIONS

Radiography Program
Is a hospital-based advanced imaging program that is 24 months in length and is accredited by the Joint Review Committee on Education in Radiologic Technology (www.JRCERT.org). A new class will commence each July with class space limited for 26 students. Classroom and clinical education is offered Monday through Friday, 7-3pm. Didactic Classes are offered at 9250 Kirby, Suite 1800. Clinical education is offered at Ben Taub and Lyndon B. Johnson hospitals with 6 Ambulatory Care Centers.

Sonography Program
Is a hospital-based advanced imaging program that is 20 months in length and is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org). A new class will commence each September with class space limited for 16 students. Classroom and clinical education is offered Monday through Friday, 7-3pm. Didactic Classes are offered at 9250 Kirby, Suite 1800. Clinical education is offered at the Ben Taub and Lyndon B. Johnson hospitals and Smith clinic.

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

**Program length**
The program is divided into didactic and clinical components.
- The program begins each year:
  - July/ Radiography
  - September/ Sonography
- The program is divided into:
  - Six semesters/ Radiography
  - Five semesters/ Sonography
- The second year of the program begins in June.
- The program ends mid-May

**Program schedule**

<table>
<thead>
<tr>
<th>Student</th>
<th>Didactic (Class)</th>
<th>Clinic</th>
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<tbody>
<tr>
<td>Junior (1st year)</td>
<td>Monday, Wednesday, Friday</td>
<td>Tuesday, Thursday</td>
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<tr>
<td>Senior (2nd year)</td>
<td>Tuesday, Thursday</td>
<td>Monday, Wednesday, Friday</td>
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**Program goals**
“To prepare competent entry-level general sonographers and radiographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains”

**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.

Program Effectiveness:
• The program will fulfill its mission to educate the next generation of imaging professionals.

Program Outcomes:
• Graduates will pass the credentialing exam.
• Graduates will be employed or seek advance certification.
• Employers will be satisfied with graduate performance.
• Graduates will be satisfied with the program.

Student evaluation
It is our desire that 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

Clinical evaluations
Clinical education is competency-based. Performance is evaluated throughout the program.
Evaluation in clinical education consists of:
• Performance evaluations
• Competency evaluations
• Examination Logs
• Clinical Capstone (Radiography)

Grading
Students must receive a minimum of a “C” in each course to satisfy graduation requirements. All course grades are used to determine the student’s overall GPA. The following grading system is used throughout the program:

<table>
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<th>Letter Grade</th>
<th>Numerical Grade</th>
<th>Grade Points</th>
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<tr>
<td>A</td>
<td>94-100</td>
<td>4.0</td>
</tr>
<tr>
<td>B</td>
<td>86-93</td>
<td>3.0</td>
</tr>
<tr>
<td>C</td>
<td>76-85</td>
<td>2.0</td>
</tr>
<tr>
<td>F</td>
<td>Below 76</td>
<td>0.0</td>
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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 at:
- Mid semester
- End of semester
- End of the first year

**Academic progress**
Satisfactory:
- Passing all courses with a grade of C or higher

Unsatisfactory:
- Fail 1 course
  - Student will be withdrawn from the program.

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

**Repeat coursework: (clinical)**
In extenuating circumstances where a student has physical limitations following a leave of absence (LOA) the student will repeat the clinical course during the summer semester following graduation. The program must be completed within 150% of the published program length.

**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 ‘C’ (76).
2. Pass the Sonography Principles & Instrumentation (SPI) Examination (Sonography students only) by December 31 of the second year enrollment.
3. Satisfying the requirements of the competency based clinical education plan.
4. Satisfy the terminal competency objectives.
5. Complete the program within 150% of the published program length (3 years).
6. Pay tuition and fees in full.
7. Make up all time missed.
8. Pay all outstanding library fees at Houston Academy of Science.
9. Satisfactory complete Capstone evaluations (clinical and didactic). (Radiography students only)
10. Satisfy program accreditation and certification requirements.
11. Schedule an exit interview on the last day of enrollment.
12. Return the following:
   - Hospital Identification
   - Radiation Monitor
   - Receipt with zero balance from Houston Academy of Science.
Capstone
Capstone is a comprehensive examination completed during the final semesters consisting of two parts, didactic and clinical.

Didactic Capstone
The didactic capstone is a comprehensive written examination.

Clinical Capstone (Radiography)
The clinical capstone is a comprehensive assessment in which students demonstrate essential radiographic procedures

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

- The students must pass the SPI exam to graduate.

Terminal Competencies
Upon completion, the student will 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 competency 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 analog and 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.

Terminal competency sonography specific
1. Demonstrate knowledge of the basic properties of ultrasound.
2. Demonstrate knowledge of acoustic energy bio effects.
3. Demonstrate knowledge of ethical and professional responsibilities to practice medical ultrasound.

ADMISSIONS

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.

Requirements for Admission
Interviews and consideration for acceptance are granted to individuals who meet or exceed the minimum criteria required to make application to the School of Diagnostic Medical Imaging. Please note that requirements for admission are subject to change.

Applicant requirements:
1. 18 years old by September 1st of the year of application.
2. Capable of successfully performing tasks related to the occupation. Please see Technical Performance Standards.
3. U.S. citizen or permanent resident at the time of application. Proof of US citizenship or permanent residence is required.
4. Obtain all pre-requisites for desired discipline (Radiography or Sonography)
Transcripts must document a cumulative GPA of 2.5 or higher on a 4.0 scale.

Radiography Pre-requisites
- Document completion of a minimum of an associate’s degree which includes the following courses: Transcripts must document a cumulative GPA of 2.5 or higher on a 4.0 scale.
- 3 credit hours required of mathematics/logical reasoning
- 3 credit hours required of written/oral communication
- 3 credit hours required of human anatomy and physiology I - Bio 2401 or Bio 2404
- 6 credit hours from any of the following courses: arts and humanities, social/behavioral science and information systems

Sonography Pre-requisites:
Two Options: Transcripts must document a cumulative GPA of 2.5 or higher on a 4.0 scale.
1. Option 1.
   - Graduation from a healthcare related program: diploma, certificate or degree
   - Healthcare program must be:
     - 24 months length, or 60 semester credit hours, or 84 quarter credit hours
     - The following college level classes are mandatory*
       - College algebra, statistics or higher mathematics course (one semester)
       - Communication skills: English, Composition or Speech (one semester)
       - General college-level physics and/or radiographic physics (one semester)
       - Human anatomy and physiology (one semester required, two semesters highly recommended)
       - Medical terminology
2. Option 2.
   - Minimum of 42 hours of college.
   - The following college level classes are mandatory*
     - 3 hours: College Algebra, Statistics or higher
     - 3 hours: College Physics
     - 4-8 hours: Anatomy & Physiology (one semester required, two semesters highly recommended)
     - 3 hours: Psychology or Sociology
     - 3 hours: Communication skills: English, Composition, Literature or Speech
     - 3 hours: Humanities/Fine Arts
     - 3 hours: Information Technology/Computer Science
     - 1-3 hours: Medical Terminology
     - Remainder of the hours may be earned in any college level subject

Submission of application
The completed application must include:
- A nonrefundable $35 application fee in the form of a money order or cashier's check only.
- A short essay explaining why you chose medical imaging as a career. Submitted on a separate page.
- Official transcripts from all colleges attended.
  - Transcripts must document a cumulative GPA of 2.5 or higher on a 4.0 scale.
  - Radiography applicants: Transcripts are accepted only from colleges that are accredited by a mechanism acceptable to the ARRT.
https://www.arrt.org/partners/schools-educators/accreditation
Sonography applicants: Transcripts are accepted only from colleges that are accredited by a mechanism acceptable to the CAAHEP.

Applicants with foreign transcripts must have academic credentials evaluated for US equivalency by an education consulting service and submit an official copy directly to the program. The evaluation must include a documented cumulative GPA of 2.5 or higher on a 4.0 scale.

- Two (2) letters of recommendation- should come from individuals who can adequately evaluate academic and employment performance.

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 or examination table) without causing injury and discomfort to the patient or self.
2. Position the patient.
3. Manipulate imaging equipment (fixed and mobile units) into proper 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.

Applicants who meet the admission requirements are scheduled for an interview with the Selection Committee.

Student Selection
Applicants are selected for admission using the following information:

1. A completed application
   a. Transcripts - academic performance
   b. Essay
   c. References
2. Interview
   a. Interview panel - behavioral interview questions

Harris Health System's Human Resources Department (HR) processes 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
Criminal Offense and ARDMS or ARRT 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 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.

Advanced Placement
The Harris Health System School of Diagnostic Medical Imaging follows a cohort format. All enrolling students must follow the set curriculum regardless of previous experience and/or education.
- The radiography program offers advanced placement.
- The sonography program does not offer advanced placement.

A radiography student previously enrolled in a JRCERT accredited program or who has received RT(R) certification in another country, may apply for advanced standing. An applicant for advanced placement must complete the admissions process and provide official transcripts from the previous radiography program and all collegiate institutions. The School reserves the right to require placement testing of all advance placement candidates.
- If Advance Placement testing is completed with satisfactory results (76 or higher), the Administrative Committee will determine: admission approval and program placement.
- If testing is completed with unsatisfactory results, the student will have the opportunity to resume the admissions process for the full length of the program.

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

Students transferring into the radiography program. (Radiography Only)
- Applicants applying for the radiography program must have earned an associate or higher degree from an institution that is accredited by a mechanism acceptable to the ARRT (www.arrt.org). The degree may be awarded before enrollment or during enrollment in the program, but must be awarded before graduation and prior to being granted eligibility to sit for the ARRT exam.
- All required courses must have a minimum grade of ‘C’.
- Applicants with credentials from institutions outside of the U.S., the academic degrees must be must be evaluated by an academic credential evaluation service recognized by the ARRT.
- For applicants who do not satisfy the degree requirement, the program can assist them in obtaining a degree through an articulation agreement with St Joseph’s College of Maine.
  o Application and additional information is available at https://www.arrt.org/partners/schools-educators/accreditation
  o Applicants must:
    ▪ Submit general application for admission to SJCME and Harris Health System.
    ▪ Complete the prerequisite coursework
- Transfer SJCME credits to satisfy prerequisites for Harris Health System School of Diagnostic Medical Imaging
- Complete radiography program requirements at Harris Health System

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

**Tuition and Fees:**
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.

**Payment Options**
Option 1:
Tuition may be paid in full by the first day of class.

Option 2:
Payment plan is available. Installment fees will apply.

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 (no permitted time-off).

**Veterans Administration (VA) Education Benefits**
- Students receiving VA education benefits must provide transcripts of all post-secondary education completed. (Reviewed May 2018)

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

**Withdrawal**
A student who withdraws from the program may be eligible for readmission for the following academic year, providing classroom, clinical and program capacity are available.
The Student must:
- Notify the program in writing of withdrawal.
  - Students who fail to officially withdraw from the program must make formal application for admission

**Re-admission:**
With the approval of the Administrative Committee, a student who withdraws or is withdrawn from the program may be eligible for readmission for the following academic year, providing classroom, clinical and program capacity are available.
- The student must submit a written request for re-admission.
- 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 of withdrawal date.

Re-admission conditions:
• The program must be completed within 150% of the published program length.

ATTENDANCE
Attendance has a profound effect on performance in both the classroom and the clinic. Students are expected to be in attendance, and on time, every day.

School hours
7:00 am – 3:00 pm

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 2 weeks
End of summer semester 1 week

In addition to scheduled break, students are off on the holidays listed. The exact dates are listed on the academic calendar.
• Martin Luther King’s Birthday
• President’s Day
• Good Friday
• Memorial Day
• Independence Day
• Labor Day
• Day before Thanksgiving
• Thanksgiving Day
• Day after Thanksgiving

Attendance Notifications:
Students should notify the school at 713-634-1550 and use Trajecsys to log all attendance time by 9am on the day of the absence.
• Do not log in/out for your classmates.
  o Logging in/out for another student is considered fraudulent and will result in disciplinary action.
• Failure to log in and out on the same day may be coded as absent.
• Logging in or out of an unassigned area
  o Notify clinical coordinator immediately

Lates
1. Students must be in class/clinic by the scheduled start time.
2. A student who will be late is encouraged to notify the school office by 7:00am. All late notifications must be completed before 9am.

3. A student is coded late at:
   - 7:01 am to 8:00 am (some sites will have different arrival times- follow the 59 minute window accordingly).
   - Documenting lates:
     1. Log in to Trajecsys
     2. Click on Evaluations
     3. Click on Form: Late Arrival/Early Departure/Makeup Time Form
     4. Fill out accordingly. Go down to Late Arrival Form (select site, select reason – late arrival, select date arrived late, type reason for tardy, state amount of time late, and submit).

Early Departure (Early Out)
An early departure is any time a student clocks out or leaves 1 hour before the conclusion of a scheduled class/clinic time. Early departures are coded as a ‘Late’.
- An early departure will be coded as a late
- Documenting lates:
  1. Log in to Trajecsys
  2. Click on Evaluations
  3. Click on Form: Late Arrival/Early Departure/Makeup Time Form
  4. Fill out accordingly. Go down to Late Arrival Form (select site, select reason – late arrival, select date arrived late, type reason for tardy, state amount of time late, and submit).

Disciplinary action: New Policy amendment for absences and Lates/ Early Out (1/2019)
- 1st -3rd infractions with notification
- 4th occurrence: progressive counseling with an additional 8 hours of suspension time
  a. 12 hours of scheduled time to be made up at the end of the semester.
     i. 4 hours for lates/early departure
     ii. 8 hours of suspension time
- 5th occurrence: progressive counseling - administrative committee referral
  a. Suspension with probation
     i. Probation may not exceed 90 days.
     ii. Suspension time may not exceed 3 days.
     1. If 3 day suspension is not completed before program completion, student has not met the qualifications for graduation.
  b. Dismissal
Absences (With Permitted Time Off – PTO) (Excludes Summer semesters)

Students may be absent a total of three (PTO) days each fall/spring semester. Scheduling PTO is encouraged and must be scheduled and/or taken before final exams start.

A student is absent when:

- 'Call's-in’ to the (713) 634-1550 line before 9 am on the morning of the absence.
- Arrives after 1 hour of scheduled class/clinic start time.
- Leaves before 1 hour before the conclusion of scheduled class/clinic time.

PTO Notification process:

1. 'Call-in' to (713) 634-1550. The information must include the following:
   a. Full name
   b. Full date

2. Fill out absent request form on Trajecsys on the day of the call in/absence before 9am. This form is to be utilized for all absences whether clinic or class time.
   a. Documenting absences in Trajecsys
   1. Log in to Trajecsys
   2. Click on Evaluations
   3. Click on form: Absent and Absent Make Up Form
   4. Fill out accordingly (select site, select absent, select dates, confirm dates, select # of days, under make up days – select not applicable, and submit).

4. Students are not permitted to schedule PTO on mandatory school days. The following are considered Non-PTO days (mandatory school days):
   a. Workshops
   b. TSRT
   c. Graduation/ White Coat Ceremony
   d. International Day
   e. Semester Orientations
   f. Inclement weather and/or make-up days
   g. Final Exams
   h. Before or after a scheduled day off

5. Students with more than three (3) absences or a missed Non-PTO day will be referred to the program director for disciplinary action.

Disciplinary action: 2019 Policy amendment for PTO absences

- 1st -3rd infractions with notification
- 4th occurrence: progressive counseling with an additional 8 hours of suspension time
  a. 16 hours of scheduled time to be made up at the end of the semester
    i. 8 hours for 4th absence
    ii. 8 hours of suspension time
- 5th occurrence: progressive counseling - administrative committee referral
a. Suspension with probation
   i. Probation may not exceed 90 days.
   ii. Suspension time may not exceed 3 days.
      - If 3 day suspension is not completed before program completion, student has not met the qualifications for graduation.

b. Dismissal

**Disciplinary action for Non-PTO Absences: 1/2019 Policy**

- 1st occurrence: progressive counseling - verbal with 1 day Suspension
  a. 16 hours of Scheduled time to be made up at the end of the semester
     i. 8 hours for 4th absence
     ii. 8 hours of suspension time

- 2nd occurrence: progressive counseling – written with administrative committee referral
  a. suspension with probation
     i. Probation may not exceed 90 days.
     ii. Suspensions may not exceed 3 days.
        i. If 3 day suspension is not completed before program completion, student has not met the qualifications for graduation.

b. Dismissal

**Absent without Notification (No call/no show)**
A student who does not notify the school office between 7-9am is coded as absent without notification.

- a. 1st occurrence: progressive counseling - verbal with 1 day Suspension
  a. 16 hours of Scheduled time to be made up at the end of the semester
     i. 8 hours for 4th absence
     ii. 8 hours of suspension time

- 2nd occurrence: progressive counseling – written with administrative committee referral
  a. suspension with probation
     i. Probation may not exceed 90 days.
     ii. Suspensions may not exceed 3 days.
        i. If 3 day suspension is not completed before program completion, student has not met the qualifications for graduation.

b. Dismissal

*Absent without notification for three consecutive days will result in immediate dismissal from the program.*

**Make-up time:** All time must be made up before the conclusion of the semester absences, lates/early outs, and/or occurrences occurred. In extenuating circumstances, the administrative committee may elect to utilize ‘break’ time for make-up time completion.

<table>
<thead>
<tr>
<th>Summer I (Radiography students only)</th>
<th>Through the end of the semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td>Through the end of the semester</td>
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<tr>
<td>Spring Semester</td>
<td>Through the end of the semester</td>
</tr>
<tr>
<td>Summer II Semester</td>
<td>Friday / End of semester School days</td>
</tr>
</tbody>
</table>

All absences must be made up: Time will not be credited without the appropriate documentation. Students who are making up time must:
• Report to the supervisor/ DCI of the clinical area where you are making up time.
• Complete Make up time form in Trajecsys.
  o Log in to Trajecsys
  o Click on Evaluations
  o Click on form: Absent and Absent Make Up Form
  o Fill out accordingly (select site, select absent, select dates, confirm dates, select # of days, under make up days – select not applicable, and submit).
• Punch out after you have made up the required time.

Illness
Communicable Disease
A student with a communicable disease must:
  • Inform the school immediately (before returning to class or clinic).
  • Submit physician’s clearance to attend school.
  • Time missed must be made up by the end of the semester.

Note: The program must be completed within 150% of the program length.

Inclement Weather/Make-up Time
Sometimes inclement weather or other unforeseen circumstances prevent students from reaching school safely and on time.
During inclement weather:
  • The Harris Health Emergency Notification has been received.
  • Delayed, when clinical departments are delayed.
  • Students will not be penalized according to the regular attendance policy.
Students must complete inclement weather make-up time at the end of each semester during the scheduled school/inclement weather days.

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 employee health clinic or emergency department personnel.
  • Be cleared to return to school without physical limitations.
  • Time missed must be documented and or scheduled for make-up.

Note: The program must be completed within 150% of the program length.

Physical Limitations:
A student who is injured/surgical procedure that interferes with clinical duties may resume didactic learning with physician permission documentation. No student may return to clinic with physical limitations preventing him/her to meet the technical performance standards. Upon physician approval, the student must:
  • Be cleared by his/her physician for clinical duties before returning to clinic.
  • Submit clearance documentation to school office.
  • Time missed must be made up by the end of the semester.
  • When extenuating circumstances interfere with the student’s progress, the student may request a leave of absence that may not exceed two weeks (10 school days).
Leave Of Absence (LOA)
Occasionally, mitigating circumstances occur and a student must take a temporary leave of absence. The student may request one Leave of Absence (LOA) per academic year. LOA may not exceed 2 consecutive weeks or 10 school days, per academic year.

The student must:
- Submit a written request to the administrative committee.
- The request must indicate the duration of leave.
- The committee will respond to the request within twenty-four (24) hours of receipt.
- Meet with instructors on the day of return to discuss missed course work.
- Complete all time missed by the end of the semester

Note: The program must be completed within 150% of the program length.

Leave of Absence (LOA) instances:
- Within two weeks and physical limitations for clinical education
  - The student will receive an incomplete and will need to repeat the clinical course during the summer semester following graduation.
- Exceeding two weeks with physical limitations for clinical education
  - Referral to the administrative committee
  - The student may be required to withdraw from the program and request reenrollment for the following academic year.

In instances where a student must repeat coursework, the program length may be extended to 150% of published program length with the approval of the administrative committee
  - The program must be completed within 150% of the published program length.

Jury Duty
Jury duty is a civil responsibility. A student who is subpoenaed to jury duty may choose to be excused or to serve.
- Choose to be excused:
  - Submit documentation provided by the program.
- 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 (with LOA).
  - If the trial lasts longer than two weeks, the student may be required to withdraw from the program and return the following year in the beginning of the semester in which they left.
  - Submit original court documents when jury duty is complete.

Court Appearances/Harris Health System
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 be made up.

Court Appearances/Personal Business
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.

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, stepparents
• Sister, brother, wife, husband,
• Daughter, son, stepchildren, grandchildren
• Father-in-law, mother-in-law, daughter-in-law, son-in-law
• Grandparents, great-grandparents and legal guardian

Bereavement Leave Procedure:
• Submit a request for bereavement (funeral) leave
• Submit verification of the death and/or proof of the relationship of the student to the deceased.
• Verification can be in the form of an obituary notice, death certificate, or funeral service program that includes the student’s name.
• Time missed for immediate family will not be required to be made up.
• Time missed for bereavement leave of non-immediate, must be made up.


DRESS CODE

Uniform: Solid black scrubs. Permitted colors of scrub piping and logos.
  o No fashionable zippers, snaps, buttons
  o Infection prevention plan

Shoes: All black uniform shoes or sneakers with black or white socks.

Lab Coat: White or black, clean, and ironed lab coat.

The dress code is in effect at all times. Students must be in full uniform every day.
1. Hospital identification must be worn at all times.
2. Both male and female students may wear standard white or black t-shirts with rounded collar. T-shirts must be clean and free of logos. Black or white fitted long-sleeves are permitted under scrub top.
3. Shoes must be clean.
4. Jewelry must be kept to a minimum.
5. Hair must be kept clean.
   a. Shoulder length or longer hair must be pulled back so as not to fall forward during patient care.
   b. Hair must not cover the name badge.
   c. Hair ornaments kept to a minimum.
   d. Facial hair must be neatly trimmed and well groomed.
6. Nails must be kept short and clean.
   a. Nails should not extend \( \frac{1}{4} \)" past the fingertips.
   b. No artificial fingernails or extenders.
c. Nail polish must be un-chipped and clear.
7. A black or white lab coat is the only acceptable outerwear in clinic.
8. A black or white lab coat, a solid white or black zippered or button down sweater without a hood may be worn in class.
9. Students on surgery rotation must wear appropriate surgical attire. Students must wear masks in all operating rooms.
    BT surgical attire:
    a. Blue jumpsuit (retrieved from OR front desk)
    b. Hair cover
    c. Shoe covers
    LBJ surgical attire:
    a. Hair cover
    b. Shoe Covers
10. Students leaving the surgery department (lunch, break, or end of clinical day) must remove all surgical attire.
    - 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:
    - Properly display the ID badge while they are 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.
        o Complete the request for replacement.
        o Have the request signed by the Program Director.
        o Take the request to Harris Health System Department of Public Safety.
        o Pay the fee to replace the ID badge.

Professional Conduct
The ServiceFIRST Interaction Standards are the foundation for professional conduct of Harris Health System.
The success of the program relies upon students and staff working effectively together to deliver high quality healthcare to residents of Harris County. Professional conduct is required and expected at all times.
    Students must:
    - Be courteous.
    - Demonstrate professionalism.
    - Follow directives.
    - Maintain patient confidentiality.
        o Do not disclose patient information to anyone who is not directly involved with the care of the patient: this includes friends, classmates and family members.
    - Discourage visitors in the imaging department during school hours.
SERVICEFIRST INTERACTION STANDARDS

To ensure that I deliver an Exceptional Harris Health Experience with every interaction with patients, guests, and co-workers, I commit to exhibiting these specific behaviors:

**FRIENDLINESS: Friendly, helpful greeting**

“Welcome to Harris Health, my name is…, how may I help you?”

“Good morning, my name is Jane Smith; I look forward to taking care of you.”

“Thank you for calling Harris Health, this is...how can I help you?”

**INTEGRITY: “I” statements to show ownership**

“I can help you with...”

“I will get someone who can help you with...”

“Is there anything I can do for you?”

**RESPONSIBILITY: Responsible for time expectations and next steps**

- Reset time expectations
- Keep patients and coworkers informed
- Describe and communicate next steps

**SATISFACTION: Surroundings and personal appearance**

- Personal appearance: name badge on the upper part of your body, no lanyard Adhere to dress code standards
- Keep work areas/public areas clean and clutter free

**TEAMWORK: Thank You**

“Thank you for choosing Harris Health.”

“Thank you for letting us take care of you.”

“Thank you and have a healthy day.”

**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. 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
- Radiation protection practices “dos and don’ts”.

Students are required to:

1. Adhere to the radiation protection practices.
2. Wear radiation monitor as instructed.
3. Wear protective apparel as instructed.
4. Utilize the principles of time, distance, and shielding in radiation protection.
5. Leave radiation monitor in the assigned area at the end of each day, unless otherwise instructed.
6. Perform experiments with energized equipment under supervision of clinical staff or clinical instructors only.
   a. Use phantoms and positioning devices that are available for performing laboratory experiments.

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

**Radiation monitoring guidelines**
The student must:
1. Pick up the radiation monitor every day after punching in.
2. Wear the radiation monitor on the uniform collar at all times while in clinic.
3. Wear the radiation monitor outside of the lead apron on the collar during fluoroscopy.
4. Return the radiation monitor to the designated area at the end of the day after punching out, unless there is a change in clinical site assignments for a new clinical rotation.
5. Exchange the radiation monitor at the beginning of each quarter.
6. Review and initial the dosimetry report in the office.
7. Handle the radiation monitor with care.
8. Be careful not to misrepresent the actual exposure; severe disciplinary action will result including suspension and/or dismissal from the program.
10. Pay a $15.00 replacement fee for lost radiation monitors.
11. 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
12. Request, in writing, to radiation safety officer (RSO) to have exposure records made available to employers.
13. Failure to adhere to the guidelines for radiation monitoring will result in disciplinary action.

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.

**THE ALARA LEVELS FOR OCCUPATIONALLY EXPOSED PERSONNEL ARE:**
- Level 1: 125-400 mrem.
- Level 2: greater than 400 mrem.
- For ALARA Level I notifications, the Radiation Safety staff will review the dose with the badged individual and report results to the Radiation Safety Committee. No action is required unless deemed appropriate.
- For ALARA Level II notifications, the Radiation Safety staff will investigate in a timely manner the cause(s) the dose with the badged individual and, if warranted, take action. A report of the investigation and the individual’s exposure record will be presented to the Radiation Safety Committee following completion of the investigation. The details of these reports will be recorded in the Committee minutes.


Pregnant students will be governed by the pregnancy policy.

**Dosimeter Replacement:**
To request or replace a dosimeter, contact program administration

- Faye Vance is the contact person in the radiography program to order or cancel dosimeters.
- There is a $15.00 replacement fee for lost dosimeters.

Radiation monitoring records
1. The dosimetry reports are reviewed by the Radiation Safety Officer (RSO) and the program director.
2. Any problems identified on the report are addressed by both the RSO and the program director.
3. Records for one full year of monitoring are maintained in the program office in the radiation monitoring binder.
4. Students and faculty must review and initial the quarterly dosimetry report.
5. The radiation monitoring records for the program are primarily maintained by the RSO
6. Request for records will be directed to:

   Dr. Benjamin Archer
   Radiation Safety Officer
   Baylor College of Medicine
   1 Baylor Plaza
   Houston, Texas 77030

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.  

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 initiate 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.
If a declaration of pregnancy were withdrawn:
   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.

If the declaration is not withdrawn:
   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:

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 persons coming in contact with the magnetic field should be appropriately screened for contraindications. A useful reference for determining MR compatibility is Shellock’s Pocket Guide to MR Procedures and Metallic Objects. An online reference is www.mrisafety.com. The following devices are absolutely contraindicated for MR imaging because they are magnetically, electrically, mechanically activated or affected:
   - Neurostimulators
   - Cochlear implants
   - Bone Growth simulators
   - Implant able pediatric sternum device
   - Metallic foreign body in the eye
   - Gastric Reflux device

Safety And Environmental Health

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://SP2013.HCHD.LOCAL/CMO/QUALITY/PAGES/INFECTION-PREVENTION.ASPX](HTTPS://SP2013.HCHD.LOCAL/CMO/QUALITY/PAGES/INFECTION-PREVENTION.ASPX)

**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

Harris Health System Employee Discipline Policy and Regulation
apps.hchd.local/sites/dcc/.../Policies/6.20 Employee Discipline.pdf

Definitions:

- **Occurrence**: A metric or measurement that is used to guide the disciplinary action.
- **Progressive Counseling**: A discussion between administrator and student regarding performance.
- **Late**: Reporting to 7:01 - 8 am. (Some sites will have different arrival times- follow the 59 minute window accordingly)
- **Early departure**: Reporting early leave: 1 hour before the conclusion of scheduled class/clinic time.
- **Absence**: Missing 7 or more hours of a scheduled day. (Arriving after 1 hour of scheduled class/clinic start time or leaves before 2:00 pm)
- **Missed Punch**: Failure to clock in at the start or end of the scheduled day or in the wrong area.
- **Wrong Location punch**: Clocking in/out of an unassigned area.
- **Permissible Incidents**: 1-3 infractions with notification, disciplinary action at the fourth infraction.
- **Impermissible Incidents**: Disciplinary action at first infraction.

<table>
<thead>
<tr>
<th>Disciplinary Guide Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Permissible Incidents</strong></td>
</tr>
<tr>
<td>Excessive absenteeism</td>
</tr>
<tr>
<td>Failure to follow instructions</td>
</tr>
<tr>
<td>Dress code violation</td>
</tr>
<tr>
<td>Missed punch</td>
</tr>
<tr>
<td>Wrong location punch</td>
</tr>
<tr>
<td>Excessive Late infractions</td>
</tr>
</tbody>
</table>

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 (Grace period):**

Disciplinary action:

1. **1st -3rd** infractions with notification
2. **4th** occurrence: Suspension 1 day
   a. 8 hours of Scheduled time to be made up at the end of the semester
3. **5th** occurrence: progressive counseling - administrative committee referral
   i. suspension with probation
      1. Probation may not exceed 90 days.
      2. Suspensions may not exceed 3 days.
         a. If 3 day suspension is not completed before program completion, student has not met the qualifications for graduation.
   ii. dismissal
*The student may initiate grievance procedure.

**Impermissible Incidents (No grace period):**

1. Disciplinary action:
   a. 1st occurrence- progressive counseling- referral to the administrative committee.
      i. probation
         1. Probation may not exceed 90 days.
      ii. suspension
         1. Suspensions may not exceed 3 days.
            a. If 3 day suspension is not completed before program completion, student has not met the qualifications for graduation.
      iii. dismissal

2. Repeat offenses will intensify disciplinary action- progressive counseling- referral to the administrative committee.

*The student may initiate grievance procedure.

**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.**

1. Rudeness – offensive in the manner or action, discourteous, coarse, vulgar, ignorance or indifference to good form.
2. Insubordination- not submitting to or being disobedient to authority (any program official, hospital official, sonographer, or administrator).
3. Unprofessional behavior- ServiceFIRST violations
4. Fighting (physical violence).
5. Possession of alcohol, drugs, and/or weapons.
6. Intoxication – drinking intoxicating beverages or possession of illegal drugs while on Harris Health System premises, or arriving under the influence of intoxicating beverages or drugs.
7. Falsification of records such as:
   - admission application
   - attendance record
   - examination record
8. Theft.
9. Unethical conduct.
10. Failure to report to school for three consecutive days without notification.
11. Willful negligence or refusal to perform according to the policies and procedures of the program/department/hospital.
12. Judicial convictions for offenses that jeopardize the student’s status in Harris Health System.
13. Releasing confidential medical information (written or verbal) without authorization.
14. Failure to maintain satisfactory academic and/or clinical progress after counseling (See Involuntary Withdrawal policy)
15. Giving oral or written opinions or diagnoses of a procedure to a patient.
16. Submitting examinations to PACS without technologist approval.

**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:**
- a. No later than 5 days after the occurrence that gave rise to the conflict, the student will present a signed written request to the Administrative Director of Education.
- b. The Director shall meet with the student and provide a written response to the student within 5 days of the meeting.

**Step 2:**
- a. 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 Senior Vice President of Human Resources.
- b. The student and the administrator shall convene a meeting within 5 days of receipt of the request.
- c. The Senior VP shall submit a written response to the student’s request within 5 days following the meeting.
- d. The decision of the Senior VP of Human Resources 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](http://www.jrcert.org)

  **Sonography**
  Joint Review Committee-Diagnostic Medical Sonography
  6021 University Blvd. Suite 500
Harris Health Policies

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 713-634-1553.
- 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 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 is prohibited during school hours.
- 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 in all coursework offered in the curriculum.

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

Student Leadership Council provides a collective voice for the students, and provides leadership opportunities for class officers in student government.

Career Development includes career education in advanced certification and higher education, career counseling, 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 to the student.

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.
ADA services point of contact for students requesting ADA accommodations. **Students requesting ADA requests for accommodations are referred to Harris Health Human Resources**

**Employment**
Enrollment in the programs requires full-time 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 stipend.

**Personal Counseling in the form of spiritual care is offered by the Chaplains.**
Chaplains in the department of Spiritual Care are available to provide spiritual care to anyone who needs it. This includes employees, students, patients, patient’s family and visitors.

**Parking**
Students are responsible for their own parking. However, parking is available at no cost at the majority of the clinical sites:

- Kirby - in the HCHD marked spaces located at the extreme ends of the 9250.
- Ambulatory Care Center (ACS) - in the employee parking area.
- Smith Clinic - in the employee garage after level 5.
- LBJ - Parking lot D, with parking decal displayed.
- 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 [http://www.tmc.edu/tmc-parking.html](http://www.tmc.edu/tmc-parking.html)

**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. Employee 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 Employee Health Clinic at no cost to the student.
5. The student must be cleared fully by Employee Health before beginning the program.
6. Because of the high incidence of pulmonary tuberculosis in the patient population served by Harris Health System, ongoing TB skin test or chest x-ray 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.
7. The hepatitis vaccine is available to all students. The vaccine may be obtained through the Employee Health Clinic at no cost to the student.
8. Students who are injured while on Harris Health System premises should report the injury immediately to the clinical supervisor and clinical instructor.
   a. An injury report and an incident report must be completed and submitted immediately to Risk Management.
   b. The student will be evaluated by employee health clinic or emergency department personnel.
9. 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 student*
- Application to the school
- Letters of recommendation
- 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 education record
- Clinical education record

*Graduate*
- Harris Health System Transcript (permanent)
- Application form (permanent)
- Class schedules, attendance report summary, and clinical assignments are kept for 3 years

Applicants who deny admissions
- Records are kept for a maximum of 1 year
- Summary of reason

Withdrawals
- Records of students who withdrew in any Semester –same as graduate

Records Release
- Transcripts of all graduates of the Harris Health System are stored separately in case of fire.
- The student’s record may be transferred only by written request from the student. Upon written request, the school will release a copy of the transcript.

**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 (Buckley Amendment).

The program may disclose student’s records, without consent, to the following parties or under the following conditions (34 CFR § 99.31):
Program officials with legitimate educational interest
JRC-DMS/CAAHEP/ JRCERT officials
ARDMS/ARRT 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.


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 if necessary.
- All students rotate through all mandatory clinical assignments.

Professional Liability Insurance
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.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Availability</th>
<th>How to Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers</td>
<td>Unlimited</td>
<td>Student ID</td>
</tr>
<tr>
<td>Resources (books and software)</td>
<td>During school hours</td>
<td>Request from school office</td>
</tr>
<tr>
<td><strong>Texas Medical Center Library</strong> <a href="http://library.tmc.edu/">http://library.tmc.edu/</a></td>
<td>See website</td>
<td>Membership provided to each student by Harris Health System</td>
</tr>
<tr>
<td>Classroom</td>
<td>When not in scheduled use</td>
<td>Student ID</td>
</tr>
<tr>
<td>Sonography Scan lab</td>
<td>When not in scheduled use</td>
<td>Student ID</td>
</tr>
<tr>
<td><strong>Imaging Equipment</strong></td>
<td>When not in use</td>
<td>Faculty approval</td>
</tr>
<tr>
<td>Skeleton, disarticulated bones, injectable training arm, positioning and imaging phantoms, physics and other teaching aids</td>
<td>During school hours</td>
<td>No reservation necessary</td>
</tr>
<tr>
<td></td>
<td>Before and after school</td>
<td>Reservation required</td>
</tr>
</tbody>
</table>

** With the exception of this resource, all resources are maintained in the school or classroom.

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

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 are at the discretion of the supervisor of the area.
- Breaks should be taken with permission when the workload permits.

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 are encouraged to eat in the designated eating areas.
- Students should not eat in the classroom at Kirby or computer work stations.
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 training: instruction, practice, and evaluation.

The focus of clinical education is to develop P.R.I.D.E:

- **Proficiency**
- **Responsibility**
- **Independence**
- **Dedication**
- **Excellence**

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 radiology 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 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 daily
- Arrive prepared with the ‘tools of your trade’:
  - procedures pocket guide
  - notebook
  - pen
  - anatomic markers (Radiography)
  - radiation monitor
- 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.
• Catch up on your reading only when there are no patients waiting or in the work area. Backpacks along with text-books are prohibited in all clinical work areas.
• Always give of your best.

**CLINICAL SITES**

<table>
<thead>
<tr>
<th>Clinical Site</th>
<th>Sonography</th>
<th>Radiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben Taub General Hospital (BT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1504 Taub Loop</strong></td>
<td>Main</td>
<td>Main</td>
</tr>
<tr>
<td>Houston, TX 77030</td>
<td>713 873-2423</td>
<td>713 873-2406</td>
</tr>
<tr>
<td>School Office 713 873-2248</td>
<td>MFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>713 873-4530</td>
<td></td>
</tr>
<tr>
<td>Lyndon B. Johnson General Hospital (LBJ)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5656 Kelley St. Houston, TX 77026</td>
<td>Main</td>
<td>Main</td>
</tr>
<tr>
<td>School Office 713 566-9043</td>
<td>713 566-5459</td>
<td>713 566-5438</td>
</tr>
<tr>
<td></td>
<td>MFM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>713 566-5935</td>
<td></td>
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<tr>
<td></td>
<td>Echo</td>
<td></td>
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<tr>
<td></td>
<td>713-566-5927</td>
<td></td>
</tr>
<tr>
<td>Smith Clinic</td>
<td></td>
<td></td>
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<tr>
<td>2525-A Holly Hall Houston, TX 77054</td>
<td>Main</td>
<td>Main</td>
</tr>
<tr>
<td></td>
<td>713-566-5121</td>
<td>713-566-5121</td>
</tr>
<tr>
<td></td>
<td>Breast</td>
<td></td>
</tr>
<tr>
<td></td>
<td>713-566-3475</td>
<td></td>
</tr>
<tr>
<td>Martin Luther King Jr. Health Center</td>
<td></td>
<td></td>
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<tr>
<td>3550 Swingle Road Houston, TX 77047</td>
<td></td>
<td>Main</td>
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<tr>
<td></td>
<td></td>
<td>713 547-1180</td>
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<td></td>
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<tr>
<td>Vallbona Health Center</td>
<td></td>
<td></td>
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<tr>
<td>6630 DeMoss Street Houston, TX 77074-5004</td>
<td></td>
<td>Main</td>
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<tr>
<td></td>
<td></td>
<td>713 272-2611</td>
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<td></td>
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<tr>
<td>Casa de Amigos Health Center</td>
<td></td>
<td></td>
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<tr>
<td>1615 North Main Street Houston, TX 77009-8525</td>
<td></td>
<td>Main</td>
</tr>
<tr>
<td></td>
<td></td>
<td>713 236-7140</td>
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<td></td>
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<tr>
<td>Aldine</td>
<td></td>
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<tr>
<td>4755 Aldine Mail Route Houston, TX 77039-5934</td>
<td></td>
<td>Main</td>
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<td></td>
<td>281-985-7577</td>
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<tr>
<td>El Franco Lee</td>
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<tr>
<td>8901 Boone Road Houston, Texas 77099</td>
<td></td>
<td>Main</td>
</tr>
<tr>
<td></td>
<td></td>
<td>281-454-0983</td>
</tr>
</tbody>
</table>

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:

**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.

A qualified technologist:
1. Reviews the request for examination in relation to the student’s level of achievement.
2. Evaluates the condition of the patient in relation to the student’s knowledge.
3. Is present during the examination.
4. Critiques and approves the images.

*Radiography Students: Students must perform venipuncture, mobile procedures, operative procedures, ER shock room procedures and procedures in advanced imaging modalities 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
   b. Mid semester evaluation
   c. End semester evaluations
2. Competency Evaluations
3. Clinical Capstone
4. Terminal Competency evaluation

Biweekly Evaluations
The program utilizes evaluations to document the student’s performance in clinical education. The supervising technologist completes the evaluation at the end of each two-week clinical rotation. The biweekly evaluations are factored into the clinical education grade.

The student must:
1. Communicate with the supervising technologist in before the end of the rotation.
2. Verify that the performance evaluation is completed in Trajecsys by end of each rotation.
3. The clinical coordinator will work with the student and the supervising tech to assure that the evaluation is submitted as required by the program.

Mid Semester And End Of Semester
The faculty conduct progress reports at mid and end of the 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 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 EDUCATION PERFORMANCE EVALUATIONS BY INSTRUCTORS

<table>
<thead>
<tr>
<th>Criteria/Guidelines</th>
<th>Evaluation Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Punctuality</strong></td>
<td></td>
</tr>
<tr>
<td>1-3 incidents (Permitted)</td>
<td>4</td>
</tr>
<tr>
<td>4th incident</td>
<td>3</td>
</tr>
<tr>
<td>5th incident</td>
<td>2</td>
</tr>
<tr>
<td>More than 5 incidents</td>
<td>1</td>
</tr>
<tr>
<td><strong>Availability (attendance)</strong></td>
<td></td>
</tr>
<tr>
<td>1-3 incidents (Permitted Time Off)</td>
<td>4</td>
</tr>
<tr>
<td>4th incident</td>
<td>3</td>
</tr>
<tr>
<td>5th incident</td>
<td>2</td>
</tr>
<tr>
<td>More than 5 incidents</td>
<td>1</td>
</tr>
<tr>
<td><strong>Dress code</strong></td>
<td></td>
</tr>
<tr>
<td>Correct uniform worn correctly &amp; starched and ironed</td>
<td>4</td>
</tr>
<tr>
<td>Correct uniform worn correctly</td>
<td>3</td>
</tr>
<tr>
<td>Correct uniform worn correctly and wrinkled</td>
<td>2</td>
</tr>
<tr>
<td><strong>Grooming</strong></td>
<td></td>
</tr>
<tr>
<td>Hair pulled back, nails trimmed, minimal jewelry</td>
<td>4</td>
</tr>
<tr>
<td>One missing (hair, nails, jewelry)</td>
<td>3</td>
</tr>
<tr>
<td>Two missing (hair, nails, jewelry)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Cleanliness</strong></td>
<td></td>
</tr>
<tr>
<td>Clean uniform, clean body, shoes polished</td>
<td>4</td>
</tr>
<tr>
<td>One missing (uniform, body, shoes)</td>
<td>3</td>
</tr>
<tr>
<td>Two missing (uniform, body, shoes)</td>
<td>2</td>
</tr>
</tbody>
</table>
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
- 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 didactic instruction or successful lab evaluation.

1. Didactic Instruction and Evaluation:
   - Unit Lecture/Exam
2. Lab Evaluation:
   - Instruction
   - Observation
   - Practice
   - Assessment
3. Clinical Education:
   - Observe the procedure performed by qualified technologist.
   - Perform procedure at least once with direct supervision.
4. Competency evaluation

Radiography students:
- The student may be evaluated by faculty or by a technologist.
  1. The first choice must be faculty.
  2. The second choice is a technologist.
- When a technologist performs the competency:
  1. The technologist will evaluate “Producing the Image”.
  2. Faculty will perform the “Image Evaluation” and place a grade on the competency. Second year students may have a Designated Clinical Instructor perform “Image Evaluation” with the approval of faculty.
- The student may perform the examination with indirect supervision after successfully achieving competency.

Sonography students:
- The student may be evaluated by faculty.
- The student may perform the examination with indirect supervision after successfully achieving competency.
Clinical Competency Evaluation

Radiography
The student MUST:
1. 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.
2. Use assigned student markers.
3. Be ready to perform the procedure independently.
4. Use appropriate shielding essential for radiation protection.
   - Any student who fails to shield appropriately will fail the competency.
5. Be able and prepared to discuss the evaluation criteria for the procedure.
6. Be able to identify structures shown on the image.
   - Points will be deducted according to the point distribution for each objective that is not satisfactorily completed.
7. A final grade will be assigned only after the student has correctly explained the evaluation criteria and identified the structures shown during Image Evaluation.
8. Pass each competency with a grade of 76% or higher.

Sonography
The student MUST:
1. Pass each competency with a grade of 76% or higher.
2. Communicate with supervising technologist or faculty prior to exam that he/she is working on a competency so that images are saved in PACS.
3. Document the exam in the clinical examination log.
4. Select the correct competency form.
5. Fill the competency form out completely.
6. Sign and date the competency form.
7. The limit of accession numbers per competency is determined by the level of progression of the student.
8. Submit obstetrics and breast competencies with:
   - Each image cut to fit portfolio.
   - All patient information removed.
   - Labeling and initials displayed on each image.
9. Submit to Clinical Instructor.

Delinquent Competencies
All competencies must be completed according to the clinical education plan (Competency Checklist).

One point will be deducted from the overall competency grade for each day the competency is delinquent.

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).
- 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 students only)**
The clinical capstone is a comprehensive assessment in which students demonstrate simulations of radiographic procedures identified by the program as essential. The clinical capstone excludes procedures that require the use of contrast media.

1. All clinical competencies must be completed before students are eligible for clinical Capstone.
2. Capstone is conducted in the final semester of the program.
3. Students with extended enrollment may complete the Capstone during the final semester of extended enrollment.
4. All students must pass Capstone to satisfy graduation requirements.

**Failed Clinical Capstone (RADIOGRAPHY)**
**First attempt**
A student has two attempts to successfully complete the Capstone. If the student does not successfully complete the capstone on the first attempt, the student must:

- Complete remediation.
- Review the capstone procedures independently.
- Practice the procedures for the entire capstone, independently.
- Schedule practice time with faculty for clarification.
- Repeat entire Capstone.

**Second Attempt**
If the student fails the second attempt, the student will:

1. Not graduate as scheduled.
2. Complete extended enrollment through the next summer semester.

**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 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 requirements
   c. Competency evaluations
   d. Student evaluations of technologists
   e. Examination daily log/Skill Summary
   f. Clinical performance objectives
3. The program records exam totals as evidence of the student’s clinical participation.
4. The clinical instructors will review examination records periodically throughout the semester.
Each review will receive a grade and the grade will count towards the clinical exam log grade for the semester.

The examination log must be up-to-date at review to receive 100%.

Unsatisfactory examination log checks will result in disciplinary action.

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 month, day and year.

Clinical Skill Exam Summary
Exam summary is a clinical skill numerical summary of exam experiences for each two-week clinical rotation

The student must:
1. Maintain examination logs daily for each clinical rotation.

Clinical Education Grade Distribution
Clinical Education I-VI:

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competencies</td>
<td>60%</td>
</tr>
<tr>
<td>Performance Evaluations by instructors</td>
<td>25%</td>
</tr>
<tr>
<td>Clinical Examination log</td>
<td>10%</td>
</tr>
<tr>
<td>Clinical Instructor Evaluation by Student</td>
<td>5%</td>
</tr>
</tbody>
</table>

*Students are evaluated by Instructors and technologists*

Clinical Education Grading System:
The following grading system is used throughout the program:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Number Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>94-100</td>
<td>4.0</td>
</tr>
<tr>
<td>B</td>
<td>86-93</td>
<td>3.0</td>
</tr>
<tr>
<td>C</td>
<td>76-85</td>
<td>2.0</td>
</tr>
<tr>
<td>F</td>
<td>Below 75</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Clinical Education Grade Requirements:
Minimum semester average to pass Clinical Education is a 76.
Students who fail clinical education (semester average of below 76) 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 and II
- Radiation Physics
- Radiographic Pathology (includes an introduction to cross-sectional anatomy)
- Pathology Research
- Advanced Imaging Equipment
- Introduction to Quality Assurance and Quality Control
- Radiation Protection
- Radiobiology
- Evaluation of Radiographs
- Comprehensive Review & Evaluation
- Capstone in Radiography
  - Clinical
  - Didactic
- Competency-Based Clinical Education
  - Clinical Education I - VI
# Radiography Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST YEAR</strong></td>
<td></td>
</tr>
<tr>
<td><strong>First Semester – Summer I</strong></td>
<td></td>
</tr>
<tr>
<td>Introduction to Radiologic Technology</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Patient Care</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Radiographic Procedures I</td>
<td>2</td>
</tr>
<tr>
<td>Radiographic Procedures I – Lab</td>
<td>1</td>
</tr>
<tr>
<td>Competency- based clinical education I</td>
<td>1</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>8</strong></td>
</tr>
<tr>
<td><strong>Second Semester - Fall I</strong></td>
<td></td>
</tr>
<tr>
<td>Methods of Patient Care</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Radiographic Exposure I</td>
<td>3</td>
</tr>
<tr>
<td>Radiographic Pathology with Introduction to Cross-sectional anatomy</td>
<td>3</td>
</tr>
<tr>
<td>Radiographic Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>Radiographic Procedures II – Lab</td>
<td>1</td>
</tr>
<tr>
<td>Competency- based clinical education II</td>
<td>2</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td><strong>Third Semester – Spring I</strong></td>
<td></td>
</tr>
<tr>
<td>Principles of Radiographic Exposure II</td>
<td>3</td>
</tr>
<tr>
<td>Radiation Physics</td>
<td>3</td>
</tr>
<tr>
<td>Radiographic Procedures III</td>
<td>3</td>
</tr>
<tr>
<td>Radiographic Procedures III- Lab</td>
<td>1</td>
</tr>
<tr>
<td>Competency – based clinical education III</td>
<td>2</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td><strong>SECOND YEAR</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fourth Semester – Summer II</strong></td>
<td></td>
</tr>
<tr>
<td>Competency-based clinical education IV</td>
<td>4</td>
</tr>
<tr>
<td>Pathology Research</td>
<td>2</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>6</strong></td>
</tr>
<tr>
<td><strong>Fifth Semester – Fall II</strong></td>
<td></td>
</tr>
<tr>
<td>Radiographic Procedures (Specials) IV</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Imaging Equipment</td>
<td>3</td>
</tr>
<tr>
<td>Radiation Protection</td>
<td>2</td>
</tr>
<tr>
<td>Evaluation of Radiographs</td>
<td>2</td>
</tr>
<tr>
<td>Competency – based clinical education V</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>13</strong></td>
</tr>
<tr>
<td><strong>Sixth Semester – Spring II</strong></td>
<td></td>
</tr>
<tr>
<td>Introduction to Quality Assurance /Quality Control</td>
<td>2</td>
</tr>
<tr>
<td>Radiobiology</td>
<td>2</td>
</tr>
<tr>
<td>Comprehensive Review and Evaluation</td>
<td>8</td>
</tr>
<tr>
<td>Competency –based clinical education VI</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>67</strong></td>
</tr>
</tbody>
</table>

16 contact hours class = 1 credit hour  
2 contact hours lab/week = 1 credit hour  
8 contact hour clinical/week = 1 credit
RADIOGRAPHY COURSE DESCRIPTIONS

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 radiology 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 radiology, 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.
PREREQUISITE: Acceptance into the medical radiography program

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.
PREREQUISITE: Acceptance into the medical radiography program.

Methods of Patient Care
This course is designed to introduce the technologist to a complete understanding of special needs of patients in the radiology 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.
PREREQUISITE: Complete of Summer I

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.
PREREQUISITE I: Acceptance into the medical radiography program.
PREREQUISITE II: Radiographic Procedures I
PREREQUISITE III: Radiographic Procedures II

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.
PREREQUISITE: Radiographic Procedures I – III and Human Anatomy & Physiology

Radiographic Procedures Lab I – III: Corresponds with the Radiographic Procedures Class being taught in the same semester.
PREREQUISITE I: Acceptance into the medical radiography program.
PREREQUISITE II: Radiographic Procedures I
PREREQUISITE III: Radiographic Procedures II
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.
PREREQUISITE: Completion of Summer I

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.
PREREQUISITE: Principles of Radiographic Exposure I

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.
PREREQUISITE: Completion of coursework for Fall I

Radiographic Pathology (includes 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
PREREQUISITE: Human Anatomy & Physiology and Medical Terminology

Pathology Research paper
This paper will provide the student with the fundamental principles of research. The student will select a pathology including an advanced technology topic, complete the review of the literature, compose the research findings into a research paper and present the paper to the class. This assignment will also serve as a mechanism for evaluating communication skills. Students are encouraged to present the completed project at the annual state meeting (TSRT).

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.
PREREQUISITE: Principles of Radiographic Exposure I and II, Radiation Physics

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.
PREREQUISITE: Radiation Physics, Principles of Radiographic Exposure and Advance Imaging Equipment

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.

PREREQUISITE: Principles of Radiographic Exposure and Radiation Physics and Human and Anatomy and Physiology

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.

PREREQUISITE: Principles of Radiographic Exposure and Radiation Physics and Human and Anatomy and Physiology

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.

PREREQUISITE: Human Anatomy and Physiology, Principles of Radiographic Exposure, Radiographic Procedures

Comprehensive Review and Evaluation
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.

PREREQUISITE: Completion of all coursework through Fall II semester

Competency- Based Clinical Education (I -VI)
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.

PREREQUISITE: Radiographic Procedures I-IV

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 (Routines)
- Emergency Center
- Fluoroscopy
- Surgery/OR (Operative)
- Portables (mobile radiography)
- Bone Clinic
- Computed Tomography (CT)
- Nursing
- Magnetic Resonance Imaging (MRI)
- Bone Densitometry
- Interventional Radiography
- Cardiac Cath Lab
- Ultrasound (elective)
- Nuclear Medicine (elective)
- Mammography (elective)
- Radiologic Science Education (elective)
- Informatics (PACS) (elective)
- Biomedical Engineering-Radiology (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 radiology 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 the CQI monitors being conducted

**Ortho Radiology - 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 Radiology 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 the CQI monitors being conducted

**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 the CQI monitors being conducted.

Surgery
Responsibilities:
• Remain with the technologist assigned to surgery
• Perform procedures with direct supervision
• Be available for all surgery cases in which radiology is requested
• Dress appropriately for surgery
  o Surgical attire specified in “Dress Code” in student handbook
  o Wear hair and shoe covers
  o Wear mask when in the surgery suite (during the procedure)
  o 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

Upon completion of this rotation, the student must be able to:
• 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 the CQI monitors being conducted
FLUOROSCOPY
Responsibilities:
- 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

Upon completion of this rotation, the student must be able to:
- 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 the CQI monitors being conducted

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 the CQI monitors being conducted.
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 the CQI monitors being conducted

Interventional Radiology/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 the CQI monitors being conducted.

Interventional Radiology/Special Procedures - Nursing
Upon completion of this rotation, the student must be able to:

- Observe and perform techniques for proper patient identification
- Observe and perform proper consultation technique with patients, families, and other health care providers
- Observe and demonstrate proper evaluation process of acquiring appropriate data from electronic chart and requisition
- Identify the process for proper documentation in patient’s chart
- Practice confidentiality of patient information
- Demonstrate retrieving specific information from electronic medical records (EMR) in EPIC, RIS and PACs.
- Observe and perform assessing the patient’s mobility
- Demonstrate the rules for safe patient transfer
- Demonstrate oxygen administration assistance
- Observe assessing patient status and monitoring patient status — vital signs
- Observe and perform acquiring and recording vital signs
- Identify and explain the ranges and values of vital signs
- Perform the required competencies for general patient care
CARDIAC CATHETERIZATION

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 the CQI monitors being conducted.

Nuclear Medicine (Elective)
All students must bring objectives to the nuclear medicine supervisor on the FIRST day of the rotation.
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 the CQI monitors being conducted

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 the CQI monitors being conducted.

Informatics (Elective)
Upon completion of this rotation, the student must be able to:
- Learn the components of a PC workstation
- Learn the standard radiology information system integration with the hospital information system
- Understand how Picture Archiving and Communications System (PACS) benefits the radiology 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 radiology computer applications
- Understand the image workflow (Acquisition, Dictation, and Radiologists Signoff)
- Observe and assist in data correction (images and results)

Radiologic Science 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 radiology 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 radiology department * (If applicable)
Clinical Education I – VI Syllabus

Faculty
S. Jeanifeer Lara, MSRS, R.T. (R) (MR)(ARRT)
Jamie Tucker, EdD RT (R)(CT)(ARRT)
John Donahue, MSRS, RT (R)

Clinical Coordinators
Jamie Tucker, EdD RT (R)(CT)(ARRT)
John Donahue, MSRS, RT (R)

Clinical Instructors
Sharonda Adkins BSRT, R.T. (R) (ARRT)
Gwendolyn Alexander R.T. (R) (ARRT)
Hector Chavarria R.T. (R) (ARRT)
Pamela Eilers R.T. (R) (ARRT)
Georgette Jones R.T. (R) (ARRT)
Gracy Koshy R.T. (ARRT)
Annamma Kuriakose R.T. (R) (ARRT)
Cruz D. Vasquez R.T. (R) (ARRT)
Norma Martinez AA, RT (R) (ARRT)

OFFICE NUMBER
Kirby: 713-634-1553
BT: 713-873-2248
LBJ: 713-566-9043
MLK: 713-547-1180
Vallbona: 713-272-2611
Casa De Amigos: 713-236-7140
Aldine: 281-985-7757
Smith: 713-873-2438
El Franco Lee 281-454-0983

Supplies
Radiation dosimeter, procedures pocket guide/notebook,
Student anatomic markers and pen

Clinical Education I-VI:

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<td>Clinical Exam log</td>
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Clinical Education Grading System:
The following grading system is used throughout the program:

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Clinical Education Grade Requirements:
Minimum semester average to pass Clinical Education is a 76.
Students who fail clinical education (semester average of below 76) will be withdrawn from the program.

Clinical Education I - Summer I

Course Description
This course is designed to provide the student with the clinical skills necessary to perform as an entry-level technologist. The student will strive to master skills through a structured competency-based clinical educational plan designed for Harris Health System School of Diagnostic Medical Imaging.

Prerequisite: Admission to radiography program
Tuesday / Thursday 7:00 AM – 3:00 PM

Objectives
Upon completion of Clinical Education I the student will be able to:
1. Apply the basic principles of radiography to perform procedures.
   Students must perform procedures with direct supervision until they achieve competency.
   Students must ALWAYS perform operative and mobile procedures and procedures in the shock rooms with direct supervision.
   Repeat images must ALWAYS be performed with direct supervision.
2. Evaluate a requisition for pertinent information
3. Adequately prepare the exam room
4. Identify the correct patient for the correct procedure
5. Assess the patient and give proper instructions for the procedure being performed
6. Assist in moving and transporting the patient using safe body mechanics
7. Select and use the correct image receptors and markers
8. Demonstrate basic radiation protection for patient, self and the public
9. Select the correct source to image distance -SID
10. Manipulate equipment
11. Become involved in the everyday activities of the radiology department and become orientated to the policies and procedures of the hospital and the radiology department
12. Maintain clinical log
13. Successfully complete a CHEST PA/LAT clinical competency

Clinical Education II – Fall I

Course Description
This course consists of clinical experiences in radiologic and fluoroscopic procedures, most of which will be performed under direct supervision. It enables the student to become familiar with hospital and departmental policies and procedures, patient care skills, body mechanics, and radiographic procedures. The student will strive to master basic skills and competency through a structured, competency-based clinical education plan designed for Harris Health System School of Diagnostic Medical Imaging.

Prerequisite: Clinical Education I

Schedule: Tuesday & Thursday 7:00 AM – 3:00 PM
Objectives
Upon completion of Clinical Education II the student should be able to:

1. Apply the basic principles of radiography to perform procedures
   Students must perform procedures with direct supervision until they achieve competency.
   Students must **ALWAYS** perform operative and mobile procedures and procedures in the shock rooms with direct supervision.
   Repeat images must **ALWAYS** be performed with direct supervision
2. Evaluate the requisition for pertinent information
3. Adequately prepare the exam room
4. Identify the correct patient for the correct procedure
5. Assess the patient and give proper instructions for the procedure being performed
6. Assist in moving and transporting the patient using safe body mechanics
7. Perform general procedures of the abdomen and chest with indirect supervision and assist with all radiographic and fluoroscopic procedures under direct supervision until competency is achieved
8. Demonstrate basic radiation protection for patient, self and the public
9. Select and use the correct image receptors and markers
10. Select the correct source to image receptor distance- SID
11. Manipulate equipment
12. Acquire images
13. Correctly position the patient radiographic examinations.
14. Complete competency evaluations in procedures completed in lab
15. Complete the number of mandatory competencies and electives required.
16. Become involved in the everyday activities of the radiology department and become orientated to the policies and procedures of the hospital and the radiology department.
17. Have a technologist approve all imaging procedures and examination prior to performing, upon completion prior to close study/finish, to PACS, and initial clinical examination log.
18. Maintain clinical exam log daily.

Clinical Education III – Spring I

Course Description
This course consists of clinical experiences in radiologic and fluoroscopic procedures performed under direct and indirect supervision. It enables the student to become familiar with hospital and departmental policies and procedures, patient care skills, body mechanics and radiographic procedures. The student will strive to master basic skills and competency through a structured, competency-based clinical education plan designed for Harris Health System School of Diagnostic Medical Imaging.

Prerequisite: Clinical Education II

Schedule: Tuesday & Thursday 7:00 AM – 3:00 PM

Student Learning Outcomes
Upon completion of clinical education III the student should be able to:

1. Apply the basic principles of radiography to perform radiographic procedures
   Students must perform procedures with direct supervision until they achieve competency.
   Students must **ALWAYS** perform operative and mobile radiographic procedures and procedures in the shock rooms with direct supervision. Repeat images must **ALWAYS** be performed with direct supervision.
2. Evaluate the requisition for pertinent information
3. Adequately prepare the exam room
4. Identify the correct patient for the correct procedure
5. Assess the patient and give proper instructions for the procedure being performed
6. Assist in moving and transporting the patient using safe body mechanics
7. Perform general radiographic procedures for which clinical competencies have already been determined with
8. Indirect supervision and assist with all other radiographic and fluoroscopic procedures under direct supervision
9. Demonstrate basic radiation protection for patient, self and the public
10. Select and use the correct image receptors
11. Select the correct source to image receptor distance
12. Manipulate radiographic equipment
13. Acquire of images
14. Correctly position the patient for radiographic examinations
15. Complete competency evaluations in all radiographic procedures evaluated in lab
16. Complete the number of mandatory competencies and electives required
17. Become involved in the everyday activities of the radiology department and become orientated to the policies and procedures of the hospital and the radiology department.
18. Have a technologist approve all radiographic procedures and examination prior to performing, upon completion prior to close study/finish, to PACS, and initial clinical examination log.

Clinical Education IV – Summer II

Course Description
This course consists of clinical experiences in radiologic and fluoroscopic procedures performed under direct supervision. It enables the student to become familiar with hospital and departmental policies and procedures, patient care skills, body mechanics and radiographic procedures. The student will strive to master basic skills and competency through a structured, competency-based clinical education plan designed for Harris Health System School of Diagnostic Medical Imaging.

Prerequisite: Clinical Education III

Schedule: Monday – Thursday 7:00 AM – 3:00 PM (Fridays are research/makeup days)

Student Learning Outcomes
Upon completion of clinical education IV the student should be able to:

1. To apply the basic principles of radiography to perform radiographic procedure
   Students must perform procedures with direct supervision until they achieve competency’
   Students must ALWAYS perform operative and mobile radiographic procedures and procedures in the shock rooms with direct supervision.
   Repeat images must ALWAYS be performed with direct supervision
2. Evaluate the requisition for pertinent information
3. Adequately prepare the exam room
4. Identify the correct patient for the correct procedure
5. Assess the patient and give proper instructions for the procedure being performed
6. Assist in moving and transporting the patient using safe body mechanics
7. Perform general radiographic procedures for which clinical competency have already been achieved with indirect supervision and assist with all other radiographic and fluoroscopic procedures under direct supervision
8. Demonstrate basic radiation protection for patient, self and the public
9. Select and use the correct image receptors
10. Select the correct source to image receptor distance
11. Manipulate equipment
12. Acquire images
13. Correctly position the patient for radiographic examinations
14. Complete competency evaluations for all examinations completed in lab
15. Complete the number of mandatory competencies and electives required
16. Become involved in the everyday activities of the radiology department and become orientated to the policies and procedures of the hospital and the radiology department
17. Have technologist approve all procedures and examination prior to performing, upon completion prior to close study/finish, to PACS, and initial clinical examination log,
18. Maintain clinical exam log daily.

**Clinical Education V – Fall II**

**Course Description**
This course consists of clinical experiences in radiologic and fluoroscopic procedures performed under direct supervision. It enables the student to become familiar with hospital and departmental policies and procedures, patient care skills, body mechanics and radiographic procedures. The student will strive to master basic skills and competency through a structured, competency-based clinical education plan designed for Harris Health System School of Diagnostic Medical Imaging.

*Prerequisite: Clinical Education IV*

**Schedule:** Monday, Wednesday & Friday 7:00 AM – 3:00 PM

**Student Learning Outcomes**
Upon completion of clinical education V the student should be able to:

1. Apply the basic principles of radiography to perform radiographic procedures
   - Students must perform procedures with direct supervision until they achieve competency
   - Students must **ALWAYS** perform operative and mobile radiographic procedures and procedures in the shock rooms with direct supervision.
   - Repeat images must **ALWAYS** be performed with direct supervision
2. Evaluate the requisition for pertinent information
3. Adequately prepare the exam room
4. Identify the correct patient for the correct procedure
5. Assess the patient and give proper instructions for the procedure being performed
6. Assist in moving and transporting the patient using safe body mechanics
7. Perform general radiographic procedures for which clinical competency has already been achieved with indirect supervision and assist with all other radiographic and fluoroscopic procedures under direct supervision
8. Demonstrate basic radiation protection for patient, self and the public
9. Select and use the correct image receptors
10. Select correct source to image receptor distance
11. Manipulate radiographic equipment
12. Acquire of images
13. Correctly position the patient for radiographic examinations
14. Complete competency evaluations completed for procedures completed in lab
15. Complete all mandatory competencies and electives required.
16. Become involved in the everyday activities of the radiology department and become orientated to the policies and procedures of the hospital and the radiology department
17. Have technologist approve all radiographic procedures and examination prior to performing, upon completion prior to close study/finish, to PACS, and initial clinical examination log,
18. Maintain clinical exam log daily

Clinical Education VI – Spring II

Course Description
This course consists of clinical experiences in radiologic and fluoroscopic procedures performed under direct supervision. It enables the student to become familiar with hospital and departmental policies and procedures, patient care skills, body mechanics and radiographic procedures. The student will strive to master basic skills and competency through a structured, competency-based clinical education plan designed for Harris Health System School of Diagnostic Medical Imaging.

Prerequisite: Clinical Education V

Schedule: Monday, Wednesday & Friday 7:00 AM – 3:00 PM

Student Learning Outcomes
Upon completion of clinical education V the student should be able to:

1. Apply the basic principles of radiography to perform radiographic procedures
   Students must perform procedures with direct supervision until they achieve competency’
   Students must ALWAYS perform operative and mobile radiographic procedures and procedures in the shock rooms with direct supervision.
   Repeat images must ALWAYS be performed with direct supervision
2. Evaluate the requisition for pertinent information
3. Adequately prepare the exam room
4. Identify the correct patient for the correct procedure
5. Assess the patient and give proper instructions for the procedure being performed
6. Assist in moving and transporting the patient using safe body mechanics
7. Perform general radiographic procedures for which clinical competency has already been achieved with indirect supervision and assist with all other radiographic and fluoroscopic procedures under direct supervision
8. Demonstrate basic radiation protection for patient, self and the public
9. Select and use the correct image receptors
10. Select correct source to image receptor distance
11. Manipulate radiographic equipment
12. Acquire of images
13. Correctly position the patient for radiographic examinations
15. Complete any clinical simulation competencies as indicated by clinical faculty
16. Become involved in the everyday activities of the radiology department and become orientated to the policies and procedures of the hospital and the radiology department
17. Have technologist approve all radiographic procedures and examination prior to performing, upon completion prior to close study/finish, to PACS, and initial clinical binder examination log,
18. Maintain clinical exam log daily
SONOGRAPHY CURRICULUM
The curriculum shall include, but is not limited to the following areas:

- Introduction to Sonography
- Abdomen I
- Abdomen II
- Abdomen Review
- Superficial Structures & Advanced Practices
- Obstetrics and Gynecology I
- Obstetrics and Gynecology II
- Obstetrics and Gynecology III
- Obstetrics and Gynecology Review
- Introduction to Vascular Sonography
- Basic Ultrasound Physics and Instrumentation
- Advanced Ultrasound Physics and Instrumentation
- Case Studies
- Scan Lab I-II
- Pathology Research Project
- Clinical Education
  - Clinical Education I
  - Clinical Education II
  - Clinical Education III
  - Clinical Education IV
  - Clinical Education V
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<td>DMSO 1491  Sonographic Case Studies</td>
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16 contact hour class = 1 credit hour
2 contact hours/week = 1 credit hour
8 contact hour clinical/week = 1 credit hour
SONOGRAPHY COURSE DESCRIPTIONS:

DMSO 1210 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. Student membership in the Society for Diagnostic Medical Sonographers (SDMS) is required for this class.
Prerequisite: Admission to the program

DMSO 1541 Abdominal Sonography I:
Lecture, class discussions, and demonstrations emphasizing key medical terminology, anatomy and physiology as it relates to the abdomen, small and superficial parts. Also, evaluation of the abdomen and small parts as it relates to sonographic appearance and technique.
Prerequisite: Admission to the program

DMSO 2441 Abdominal Sonography II
Lecture, class discussions, and demonstrations emphasizing 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 pathologies and disease states of the neonate and pediatric abdomen and small parts.
Prerequisite: DMSO 1541

DMSO 1302 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.
Prerequisite: Admission to the program

DMSO 2243 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.
Prerequisite: DMSO 1302

DMSO 2405 Obstetrics & Gynecology I
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, and scanning protocols.
Prerequisite: Admission to the program

DMSO 2505 Obstetrics & Gynecology II
This class continues the detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Maternal disease and fetal abnormalities are introduced.
Prerequisite: DMSO 2405
DMSO 2605 Obstetrics & Gynecology III
This class continues to examine maternal disease and fetal abnormalities as related to ultrasound. Included are advanced instruction in scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.
Prerequisite: DMSO 2505

DMSO 2253 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.
Prerequisite: DMSO 1541

DSVT 1103 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.
Prerequisite: Complete the first year of the program

RADR 2217 Pathology Research
In this course students will research a pathological condition as related to the field of ultrasound. Students will be required to prepare and submit a 15 page research paper and present an oral defense of their research.
Prerequisite: Complete the first year of program

DMSO 1491 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.
Prerequisite: Admission to the program

DMSO 2130 Abdomen Review
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 Sonography.
Prerequisite: DMSO 1541

DMSO 2131 Obstetrical and Gynecological Review
Students will review and prepare for the American Registry of Diagnostic Medical Sonographers (ARDMS) Obstetrics & Gynecology 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 Obstetrics & Gynecology Sonography.
Prerequisite: DMSO 2505

DMSO 1166 Sonographic Lab I
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.
Prerequisite: Admission to the program

**DMSO 1266 Sonographic Lab II**
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.
Prerequisite: DMSO 1166

**DMSO 1260 Competency-based Clinical Education I**
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

**DMSO 1360 Competency-based Clinical Education II**
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: DMSO 1260

**DMSO 1460 Competency-based Clinical Education III**
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: DMSO 1360

**DMSO 1560 Competency-based Clinical Education IV**
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: DMSO 1460

**DMSO 1660 Competency-based Clinical Education 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: DMSO 1560
CLINICAL RESPONSIBILITIES AND OBJECTIVES

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

- Use two identifiers to identify the proper 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 HIPPA and applies patient confidentiality to the healthcare setting.
- Applies appropriate infection control practices in the healthcare 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 position 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, VT RT (R)(ARRT)

Clinical Coordinator:
James Norsworthy, RDMS AB, RVT, VT RT (R)(ARRT)

Supplies
Clinical binder, OB pocket guide, Notebook, and Pen.

Clinical Instructors or DCI's (Designated Clinical Instructor)

<table>
<thead>
<tr>
<th>Location</th>
<th>Instructor Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben Taub</td>
<td>Nancy Allen</td>
<td>713 873 2423</td>
</tr>
<tr>
<td>Ben Taub MFM</td>
<td>Martha Hayden</td>
<td>713 873 4530</td>
</tr>
<tr>
<td>Ben Taub IR</td>
<td>Steven Fontenot</td>
<td>713 873 2418</td>
</tr>
<tr>
<td>Ben Taub IR</td>
<td>Trung Ho</td>
<td>713 873 2418</td>
</tr>
<tr>
<td>Smith Clinic</td>
<td>Shana Prevost</td>
<td>713 566 5121</td>
</tr>
<tr>
<td>Smith Breast Clinic</td>
<td>Terri Vu</td>
<td>713 566 3475</td>
</tr>
<tr>
<td>LBJ</td>
<td>James Bedi</td>
<td>713 566 5459</td>
</tr>
<tr>
<td>LBJ MFM</td>
<td>Patty Patrick</td>
<td>713 566 5935</td>
</tr>
<tr>
<td>LBJ IR</td>
<td>Joseph Ray</td>
<td>713 566 5464</td>
</tr>
<tr>
<td>LBJ Echo</td>
<td>Bill Hendrix</td>
<td>713 566 5927</td>
</tr>
</tbody>
</table>

OFFICE NUMBER
Kirby Center 713-634-1553
BT: 713-873-2248
LBJ: 713-566-9043

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).

Clinical Education Grade Distribution
Clinical Education I-V

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
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<tr>
<td>Competencies</td>
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<tr>
<td>Performance Evaluations by instructors</td>
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<tr>
<td>Clinical Examination log</td>
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</tr>
<tr>
<td>Clinical Instructor Evaluation by Student</td>
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*Clinical Education I - students are evaluated by Instructors only*
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
- Neurosonology
- Carotid
- Venous

COMPETENCIES BY SEMESTER

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Clinical Competency</th>
<th>Number per Semester</th>
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<tbody>
<tr>
<td></td>
<td>Abdomen Sonogram</td>
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<th>Semester II</th>
<th>Clinical Competency</th>
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<tr>
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<tr>
<td></td>
<td>Trans Abdominal Pelvic Sonogram</td>
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<td>Small Part (Thyroid or Scrotum) Sonogram</td>
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<th>Clinical Competency</th>
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<td>Thyroid Sonogram</td>
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<td>Scrotum Sonogram</td>
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<th>Clinical Competency</th>
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<td>Thyroid Sonogram</td>
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<td>Scrotum sonogram</td>
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<td>Obstetrical Sonogram - 2nd/3rd Trimester</td>
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<th>Semester V</th>
<th>Clinical Competency - Capstones</th>
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<tr>
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<td>Complete pelvic Sonogram</td>
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<td>Obstetrical Sonogram - 2nd/3rd Trimester</td>
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</tr>
<tr>
<td></td>
<td>Small Part (Thyroid or Scrotum)</td>
<td>1</td>
</tr>
</tbody>
</table>
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

Interventional Radiology/Special Procedures in Sonography (Mandatory)
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
Be able to identify ascites
Be able to identify organs or pathology being biopsied
Identify vascular anatomy
Discuss the radiography and sonography procedures performed in IR
Differentiate between the types of guide wires and catheters
Be knowledgeable of the CQI monitors being conducted.

**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 some of the most common symptoms and diagnosis for Echo
- Identify specific protocols and/or views utilized during an Echo

**Computed Tomography (Elective)**
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, liver and pelvis
- Position the patient on the table for head and abdomen scans
- Load power injector
- Manipulate table controls
- Differentiate between “pre” and “post”
- 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 the CQI monitors being conducted.

**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 the CQI monitors being conducted

**Nuclear Medicine (Elective)**
All students must bring all current paperwork to the nuclear medicine supervisor on the FIRST day of the rotation.
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 the CQI monitors being conducted

**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 the CQI monitors being conducted.

Informatics (Elective)
Upon completion of this rotation, the student must be able to:
• Learn the components of a PC workstation
• Learn the standard radiology information system integration with the hospital information system
• Understand how Picture Archiving and Communications System (PACS) benefits the radiology 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 radiology computer applications
• Understand the image workflow (Acquisition, Dictation, and Radiologists Signoff)
• Observe and assist in data correction (images and results)

Radiologic Science 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 radiology 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 radiology department * (If applicable)