

2020
Student Handbook



**ENGLEWOOD
HEALTH**

SCHOOL OF RADIOGRAPHY

Welcome to the Englewood Hospital and Medical Center's School of Radiography. This handbook contains information and student policies that will enable you to better understand the radiography program. After reading this feel free to call the office (201) 894-3000 ext. 6590 if you have any questions.

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EHMC VISION STATEMENT

Englewood Hospital & Medical Center will be the regional leader in providing state-of-the-art compassionate care in a humanistic environment.

EHMC MISSION STATEMENT

The mission of Englewood Hospital and Medical Center is to:

- To provide comprehensive, state-of-the-art patient services; emphasize caring and other human values in the treatment of patients and in relations with their families, and among employees, medical staff, and community; be a center of education and research; and provide employees and medical staff with maximum opportunities to achieve their personal and professional goals.

PROGRAM MISSION STATEMENT

It is the Program's mission to develop competent entry level radiographers to serve the community.

GOALS & STUDENT LEARNING OUTCOMES

1. Perform all imaging cases competently.
 - Students will demonstrate optimal positioning skills
 - Students will use standardized radiation safety practices
2. Demonstrate effective written and oral communication skills.
 - Students will effectively communicate, both in writing and orally.
 - Students will use appropriate communication while performing in the clinical setting.
3. Students will develop critical thinking skills
 - Students will assess the need for alternative positions based on the patient's condition.
 - Students will select exposure factors relevant to the patient's physical considerations.
4. Model professionalism
 - Students will demonstrate ethical practice.
 - Students will voluntarily participate in professional activities.

APPROVALS AND ACCREDITATIONS

The Englewood Hospital and Medical Center is approved by the New Jersey Department of Health, Joint Commission on Accreditation of Health Care Organizations, National League for Nurses, American College of Pathology, and The Joint Review Committee on Education in Allied Health.

The hospital holds memberships in the American Hospital Association and the New Jersey Hospital Association.

The Englewood Hospital and Medical Center's Radiography Program is approved by the State of New Jersey of Higher Education, the State of New Jersey Radiologic Technology Board of Examiners, and the Joint Review Committee on Education in Radiologic Technology.

The radiography student is trained in the principles, ethics, and the practice of radiography. The school follows the recommended 'Standards for an Accredited Educational Program in Radiologic Sciences' mandated by the Joint Review Committee on Education in Radiologic Technology. The New Jersey Radiologic Department of Environment Protection Radiologic Board of Examiners (Board) also recognizes these 'Standards'. The school also follows the Board's accreditation 'Standards'.

The Radiography Program is consistent with the hospital's by-laws which state in part to carry on any educational activities related to rendering care to the sick and the injured in the promotion of health.

PROGRAM COSTS

- Application Fee \$ 50.00
(Nonrefundable) to accompany application
- Initial Deposit..... \$ 500.00
(Nonrefundable) credited towards first year’s tuition
- Tuition Fee – (First year) \$ 7000.00
- Tuition Fee- (Second year) \$ 7500.00
- Graduation Ceremony Fee..... \$ 200.00
(Mandatory fee, only refundable if student leaves the program up to three months prior to program completion.)
- Book fee & Marker fee Purchased by student directly from the publishing company before the school’s starting date.
- Kettering Review Seminar..... Due in senior year. Approximately \$135.00 *price varies with the number of participants.*

NOTE:

- *******ALL FEES INDICATED ABOVE ARE MANDATORY AND NON-REFUNDABLE*******
- **Tuition Refund Policy: Tuition is nonrefundable.**
- All checks should be made payable to: ENGLEWOOD HEALTH
- Any fees (other than application fee) paid after the required due dates will be subject to an initial \$100.00 LATE FEE. There will be an additional \$50 charge for each subsequent month of late payment. Furthermore, all fees must be received in full no later than **December 31st** of the students’ senior year.
- **THIS PROGRAM DOES NOT PARTICIPATE WITH TITLE IV (FINANCIAL AID)**

MEALS

Students are responsible for their own meals. Students are eligible for the 50% employee discount in the Drapkin Family Café (cafeteria).

VACATION

To provide an opportunity for rest and relaxation, the school grants fourteen (14) days per year of vacation time. Students must submit a vacation request form 24 hours prior to the day being requested, failure to do so may result in the denial of the vacation day request.

First year students will be **assigned** a spring break and second year students will be **assigned** a winter break for which a portion of their allotted vacation time will be applied.

If the number of vacation days used exceeds the number allotted, the extra days will be deducted from the student’s sick time. If there is no sick time available, the student will be terminated from the program.

It is at the discretion of the Program Official to grant or deny vacation requests.

Extraordinary circumstances requiring additional time off will be reviewed on a case-by-case basis.

Protocol for Vacation Day Requests:

- Fill out a vacation day request and submit it to a Program Official.
- Put your name on the School Vacation Calendar.
- Use MS Outlook to schedule a calendar appointment for the vacation day inviting **ALL** Program Officials as attendees.

LATE AND EARLY DISMISSAL REQUESTS

If a student requests either a late arrival or an early dismissal, a half vacation day must be used. A half of a day is defined as 8am – 12pm or 12pm – 4pm. The student will not get a lunch break on half days taken.

INDIVIDUAL REQUESTS

- To maximize the clinical educational experience, it is encouraged that students do not take vacation time during winter or spring break if it is not that students' assigned week off.
- Only two students from the junior and senior class may have off at one time when it is not an assigned winter or spring break.
- Students are encouraged to take vacation time when classes are not in session.
- Vacation time will be granted on a first come first serve basis.
- Vacation day requests must be submitted at least one day prior to the requested day off.
- Vacations are to be scheduled with the school officials as early as possible. Students must submit a vacation request form to a program official. Vacation days must also be written on the class calendar by the student requesting the time.

Vacation time may NOT be carried over from junior to senior year. Junior vacation time must be taken before the start date of the incoming junior class. Senior vacation time must be taken by the end of May. Any vacation time not taken by that time will be forfeited.

HOLIDAYS

Students are permitted 8 holidays per year. The holidays observed at present are:

New Year's Day
Martin Luther King's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day /or Hanukkah

Any days needed due to religious observances will be granted; however, they must be arranged with a program official in writing.

ABSENTEEISM & SICK TIME

It is the policy of the School to provide sick time to students for illness. It is strongly encouraged that students only use sick time for the purpose of illness.

Sick Day Protocol: Students must notify Program Officials of their intent to use a sick day. This is to be done by 7:00 A.M. Step one text the Clinical Coordinator (732-887-3879). If the Clinical Coordinator cannot be reached or is on vacation, leave a voicemail on the office phone of the Program Director (201-894-3481). **The student will also call their clinical rotation assignment to inform them of their absence.** Phone numbers to be used for sick time notification are: Main Radiology Department, extension 3407, Berrie Building ext. 4638, Emergency Department X-Ray ext. 3410, Advanced Medical Imaging 201-262-0001. A student must also use **MS Outlook** to schedule an appointment for the sick/vacation day inviting **ALL** Program Officials as attendees. If a student neglects to call in sick, does not report to the appropriate persons, or follow any of these steps, this will be considered an unexcused absence and will incur a write up the student will lose one point on their overall clinical grade. Additionally, calling in sick within the first three months of enrollment is **greatly discouraged.**

Students are given twelve (12) sick days per year. Sick days do not carry over from year to year.

If there are more than three sick occurrences in any calendar quarter, this will result in a non-compliance write-up and one point will be deducted from his/her clinical grade.

At the request of faculty, a student may be required to present written proof of an illness from their physician. Students may also be required to present written documentation of medical clearance to return to active status after an illness. These requests will be made at the discretion of the program faculty with guidance from the Employee Health Office. If documentation is requested, and not provided, the student will not be allowed to resume active status for clinical or classroom activities. This will result in an accompanying equal amount of vacation time lost until the requested documentation is provided.

If a student calls in sick a day before or after his/her scheduled time off (i.e. Holiday, Vacation), the student will lose two additional vacation days unless a doctor's note is provided. Program officials will address a student's sick time if a questionable pattern is demonstrated (e.g., calling in sick the day before a scheduled exam, calling out frequently on Mondays and Fridays).

Exceeding the 12 sick days will result in an equal loss of vacation days. If the combined 26 days of sick and vacation days are exceeded, the student will be terminated from the program.

***** There is no procedure for make-up time. *****

LATE POLICY

Student hours are Monday through Friday **8 a.m. to 4 p.m.** **This means that students must be in their designated area at 8 a.m.** Unless excused by a school official, students must remain in their area until 4 p.m. All students are responsible for reporting their presence to the technologist/clinical instructor in charge immediately upon arrival.

STUDENT LATENESS POLICY

- For every lateness, a student's affective domain/3-month evaluation will be reduced by .15 points
- If a student is late 3 times in one year, this will result in the loss of one vacation day. If the student has no remaining vacation days, the time will be deducted from the student's sick time.
- If a student neglects to sign in at the beginning of the day they will be marked as late for that day.

INCLEMENT WEATHER POLICY

Purpose: To define the protocol for closing the Program for extreme inclement weather.

Procedure:

Radiography students are studying to become healthcare providers and thus have a special obligation to provide care to the sick and injured. Hospitals do not close in cases of inclement weather.

If the School of Radiography were to close due to extreme inclement weather, the Program Director will contact all students by 6:45 AM, with the details of the closing. In this case, no one is expected to report to the school, and these absences will not affect the student's allotted time off in any way.

Should the Program remain open however, it will be left to the discretion of the student whether or not to report to school. Therefore, it is expected that all students stay informed of the progress and intensity of such situations and anticipate the need for making alternative plans to arrive at school safely. *It will be under the discretion of the program officials to determine early dismissal.*

If the Program does remain open, any time missed by a student, who is unable to report due to inclement weather, will be recorded as an absence. This absence will be counted towards the maximum of three (3) inclement weather days of the twelve (12) sick days allowed each year. The student's clinical grade will not be affected when taking inclement weather days and the days will not be counted as sick occurrences.

Inclement weather days may be taken as half days but only in the AM.

HEALTH REGULATIONS

The student will be required to take a physical examination, which will include a drug (screening) testing as part of the health service program of the hospital. There is no charge to the student.

Hepatitis B Vaccine - Students are required to show proof of having received at least one dose of the series of the three Hepatitis B vaccines on the first day of school. Proof that the other two doses are scheduled must also be shown at this time. Upon completion of the three-dose series, written documentation **must** be filed with the Employee Health Department. This vaccine will be at the student's expense.

Flu Vaccine -- It is the policy of the Employee Health Service to make influenza vaccine available annually to all personnel at no cost. All personnel who fail to seek the vaccine, or who refuse vaccination shall be required to complete a Flu-Vaccine Declination form and required to wear a mask during flu season as per the hospital's flu policy.

Students who become ill during school hours must report to the Program officials immediately. If necessary, the student will be sent to see the Employee Health or Emergency Room physician (at student's expense). No student should seek medical treatment during clinical hours without the knowledge of the Program officials. Any incident of illness or injury occurring off hospital grounds is not the responsibility of the Hospital/School.

Should a student become injured during school hours, an incident report must be filled out **immediately**. Any days missed due to the injury **will be** charged to the student's sick time.

RADIATION SAFETY POLICY FOR RADIOGRAPHY STUDENTS

PURPOSE: To protect radiography students from unnecessary exposure to radiation.

POLICY: Students of the Englewood Hospital & Medical Center School of Radiologic Technology will observe the following radiation safety practices while participating in clinical rotations:

1. Students are required to observe the basic principles of radiation protection such as ALARA (As Low As Reasonably Achievable) and the 3 "Cardinal Principles" of time, distance & shielding for themselves and for patients while in the clinical setting.
2. The students are required to wear an assigned radiation monitoring device (OSLD) at all times in the clinical setting. **(N.J.A.C. 7:28-19.12.)** Students are further required to notify program officials in the event of loss or damage to his/her monitoring device (OSLD).

Student radiation reports are evaluated quarterly by the RSO (Radiation Safety Officer). All abnormal readings are investigated to determine probable cause and action, including counseling, if needed. Radiation reports are kept on file and available during normal business hours of the school program.

All students are issued a copy of their cumulative radiation exposure dose upon departure from EHMC School of Radiography. **(N.J.A.C. 7:28-19.13)**

3. As defined by **N.J.A.C. 7:28-19.13**, "Student exposure to radiation shall not exceed any of the occupational limits prescribed in **N.J.A.C. 7:28-6.1**. In the event that a student receives an exposure of 50 mREM (0.5 mSv) or greater on any monthly radiation dosimetry report, or 100 mREM (1.0 mSv) or greater on any bimonthly radiation dosimetry report, or 150 mREM (1.5 mSv) or greater on any quarterly report, or an exposure that exceeds any of the occupational limits in **N.J.A.C. 7:28-6.1**, the school shall begin an investigation to find the cause and prevent recurrence of the exposure. The investigation report shall be completed within 30 calendar days of the school's receipt of notification of the exposure. This investigation report shall include any action to be taken to reduce unnecessary radiation exposure. The investigation report shall be given to the student and shall be maintained in the student's file. If any of the occupational limits in **N.J.A.C. 7:28-6.1** are exceeded, a copy of the investigation report must be submitted to the Department of Environmental Protection, Bureau of X-Ray Compliance.

4. Under **NO** circumstances are students allowed to hold a patient for any x-ray exposure or to be in the path of the primary beam.
5. Students are required to wear lead aprons while engaged in **ALL fluoroscopic** and **portable** x-ray examinations. **N.J.A.C. 7:28-19.12**
6. Students in schools of diagnostic radiologic technology do not expose patients during fluoroscopic procedures. **N.J.A.C. 7:28-19.12**

Additional information regarding federal and State of NJ guidelines for radiation safety may be obtained on the following websites:

- **Nuclear Regulatory Commission** - <https://www.nrc.gov/reading-rm/doc-collections/cfr/part020/full-text.html>
- **State of New Jersey Department of Environmental Protection** - <https://www.state.nj.us/dep/rpp/>

MRI SAFETY POLICY

All radiography students will attend a magnetic resonance safety program during program orientation and prior to the onset of clinical experience. All students will be screened for magnetic wave and radiofrequency hazards according to EHMC MRI protocol.

HEALTH INSURANCE

Health insurance is **not** provided to the student by the Hospital. It is therefore strongly recommended that students obtain their own medical coverage. In the absence of such coverage, **the student is fully responsible** for his/her own medical bills, even if provided by EHMC staff.

PARKING

Students must park in the area designated by Hospital Security during Program hours. If a student is found violating the Hospital & Medical Center's parking policy, corrective guidance and disciplinary procedures will be followed.

DRESS CODE

GENERAL GUIDELINES

It shall be the policy of the School of Radiography to require that all students maintain standards of personal appearance, dress and personal hygiene that create and maintain the best possible standards of infection control, safety, public image and environment for the care of the sick and injured. The public expects Englewood Hospital and Medical Center, its employees, and its students to be "hospital clean". All the elements of a student's personal appearance, dress, and personal hygiene will be regarded as an important aspect of a student's overall effectiveness and performance. The student dress code must always be adhered to while the student is on Hospital and AML grounds.

Hospital ID badges are furnished by the hospital and must always be worn. These badges should be worn in plain view. Lost badges must be replaced by the student for a nominal fee.

Additional:

1. Students will be required to carry a pen, time piece and their image identification markers on their person at all times in the hospital.
2. As previously stated, radiation monitoring devices will be provided by the department as a method to measure personal doses and the result will be evaluated by the radiation physicist on a quarterly basis.
3. Students must have their personal positioning handbook with them at all times while in the clinical setting.

Failure to follow the established dress code of Englewood Hospital and Medical Center's School of Radiography will result in Corrective Guidance and Disciplinary action.

UNIFORMS

School uniforms can be ordered from our specified uniform vendor; however, where the student purchases their uniforms is not mandated. The exact style of uniform is mandated. Details will be provided at the time of acceptance. These uniforms must be worn at all times during program hours. Uniforms must be clean, neat and pressed.

Hospital Scrub Policy

Hospital scrubs may only be worn while in the hospital when assigned to the Operating Room, Cardiac Cath. Angiography/Nursing and Berrie O.R. Students should not arrive in the morning or leave the hospital grounds while wearing scrubs. The disciplinary process will be enforced if this is not strictly adhered to.

Shoes - White, of uniform style. They should be kept clean at all times. Low-cut all white athletic footwear will be acceptable. Open back shoes are unacceptable for safety reasons.

Undergarments – Appropriate undergarments must be worn.

Students may wear white T-shirts or tank tops under their uniforms. Long sleeved or short sleeved T-shirts are acceptable if they are solid white.

Hair - Neat and presentable, either short or pinned off the face, long hair must be tied back. Beards, mustaches, and sideburns must be clean and neatly trimmed. Students who report to school with untidy facial hair will be given the opportunity to shave and fix the problem or be sent home and charged for a sick day. It is recommended that men's hair should be no more than collar length.

Jewelry and Makeup - Students shall use a minimum of makeup and jewelry. One necklace may be worn but must be kept inside the clothes while working with patients. Earrings must be kept to a maximum of three piercings per ear and must be the small button type (post), no hoops or hanging earrings. The wearing of pins, insignia or any other non-hospital-issued items in immediate patient areas is prohibited except items which constitute part of the student's uniform. Facial piercings (including nose) are prohibited during school hours.

Outerwear – If necessary, students may wear approved uniform outerwear sweater/jackets to match the uniform pants.

Nails - Short, clean and well maintained. If polish is worn, it must be clear, natural, or of pastel color. NO BRIGHT OR DARK COLORS!!!

Radiation Monitoring Devices, & Hospital Identification. –

Radiation monitoring devices must be worn at all times while in the hospital. It is recommended that monitoring devices be worn at the collar level of the uniform. Hospital identification badges must be worn at all times.

Personal Hygiene - Body odor, which is offensive to others, is not acceptable. This includes heavily scented colognes, perfumes or after shave lotions. Personal cleanliness and good oral and body hygiene are a must in the Hospital environment.

Gum Chewing - Gum chewing is **NOT** permitted in the clinical areas of the Hospital or AMI.

Tattoos – Tattoos that can be deemed offensive or unprofessional should be covered in the clinical setting.

*******If a student is found to be noncompliant three times, disciplinary action will be taken. *******

ADMISSION REQUIREMENTS

Englewood Hospital and Medical Center offers equal educational opportunities to applicants regardless of race, color, sex, religion, age, marital status, disability, or national origin. Successful completion of GED or high school is required. Courses in Algebra and Biology or Anatomy and Physiology are also recommended with a grade of C or above obtained. **It is also recommended that students possess a minimum of an**

associate degree as this is a requirement to sit for the American Registry of Radiologic Technology examination.

Applicants should have a genuine interest in the medical field as a profession.

The health record and medical exam must show the student to be in good health and able to meet the technical requirements necessary for the course of study in the program.

COLLEGE ARTICULATIONS PRESENT AND FUTURE

The Program has an articulation agreement with St. Peter's College, Fairleigh Dickinson University, Bloomsburg University & Clarion University. These articulations enable students to obtain an associate or bachelor's degree having completed general education courses with the college and attending EPMC School of Radiography.

READMISSION POLICY

Requirements for re-admission will be determined on an individual basis.

If a first-year student is terminated from the program their readmission to the Program will be determined on a case by case basis with input from the Advisory Committee, Clinical Instructors and Program faculty.

ESSENTIAL FUNCTIONS (STATEMENT OF TECHNICAL STANDARDS)

The applicant for admission to the School of Radiography should possess the following skills to perform all the procedures that would be required of a diagnostic radiographer.

Corrective devices can be used to meet the minimum requirements or standards.

1. Communicate in English with the patient to converse and instruct the patient and gain their cooperation during procedures.
2. Hear a patient talk in a normal tone from 20 feet.
3. Observe the patient to assess the patient's condition and/or needs from a distance of at least 20 feet.
4. Render services and/or assistance to all patients depending on the individual patient's needs and ability in moving, turning, getting on and off the x-ray tables, etc. Be able to push, pull and lift 40 pounds.
5. Be able to stand for periods of 2 hours wearing lead aprons and to walk a distance of 2 miles during a normal clinical day.

Upon completion of appropriate instruction, the student must be able to master the following technical standards:

1. Push a stretcher and/or wheelchair without injury to self, patient, or others.
2. Push a portable x-ray tube and manipulate a portable x-ray machine in turning corners, getting machine on and off an elevator, getting into and manipulating in a patient's room.
3. Move the x-ray machine and manipulate the tube at standard and nonstandard heights and angles.

4. Draw up sterile contrast media and other solutions without contaminating the syringe and/or needle.
5. Select exposure factors by manipulating dials, buttons, and switches.
6. Place image receptor in Bucky trays and spot image devices and properly manipulate all locks.
7. Be able to administer emergency care including CPR.
8. Read patient's medical chart and/or Doctor's orders.
9. Evaluate radiographic images to make certain that radiographs contain proper identification and are of diagnostic value.

Having completed the admission process, the applicant has a personal interview with program faculty and, if available, two other members of the admissions committee.

EHMC does not evaluate or accept transfer students. Advanced placement students are not evaluated at this time. During inquiries from prospective students, they are advised of the necessary pre-requisites for admission.

STEPS IN ADMISSION PROCEDURE

1. Completed application form with fee Essential Functions (Technical Standards) form and the Notification/Authorization/Release of information form.
2. Transcripts.
3. Three letters of recommendation (forms provided by Program Website).
4. Assessment test given in Math and Reading Comprehension/Essay.
5. Personal interview.
6. Student ranking following the interview/Admission committee conference.
7. Acceptance or rejection letter sent via e-mail.
8. If accepted, applicants are directed to the Program handbook in PDF format on our website.
9. Accepted applicants must submit a \$500.00 nonrefundable deposit to hold their seat.
10. Physical examination appointment is made & proof of Hepatitis B vaccination is required.
11. Agreement containing FERPA (Buckley Amendment).
12. Signed agreement returned with balance of first year's tuition.

*******NOTE: Final acceptance to the program is conditional pending the results of the physical examination including a drug screen and the results of the criminal background check.*******

At the time of the student interview, or at the time of the students' acceptance, a copy of the Student Handbook (Policy & Procedure Manual) is provided. The handbook explains the program's evaluation tools and school policies and procedures as well as the criteria for successful completion of the program. A copy of the handbook and a copy of the 'Standards for an Accredited Educational Program in Radiologic Sciences' by the JRCERT is made available during the student's orientation and it is reviewed with them.

ADMISSION / ADVISORY COMMITTEE

This committee will consist of the Program Officials, the Radiology Administration Staff, Medical Director, and Clinical Instructors.

This committee will meet as required for the purpose of:

1. Determining standards required for admission to the Radiography program.
2. Reviewing all applications and other pertinent information.
3. Interviewing all candidates for admission to the Radiography Program, when applicable.
4. Selecting qualified candidates for admission into the Radiography Program.

Members of the Admission Committee shall be responsible to interview each qualified applicant, when applicable, to aid in determining the applicant's eligibility. If possible, three members of the Admission Committee will interview the applicant.

SUPERVISION

Englewood Hospital and Medical Center's School of Radiography follows the definitions as set forth by the JRCERT and the New Jersey Department of Environmental Protection Board of Examiners regarding **direct and indirect supervision** of students when performing procedures in the clinical educational setting:

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

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

The JRCERT defines **indirect supervision** as that supervision provided by a qualified radiographer immediately available to assist students regardless of the level of student achievement. "Immediately available" is interpreted as the physical presence of a qualified radiographer who is in the room or in an area that is adjacent to the room or hallway where a radiographic procedure is being performed. This availability applies to all areas where ionizing radiation equipment is in use on patients.

To help ensure that proper supervision is implemented, it is the Program's Policy that **Junior Students** are to have **DIRECT** supervision by a licensed radiographer throughout their entire first year.

Senior students may perform examinations under **INDIRECT** supervision only **if they have achieved competency**. If a student achieves competency through a simulated competency evaluation it is required that the student remain under direct supervision until such time that the student achieves competency on a patient.

CLASSROOM & LAB COMPUTER USE

Students should use the classroom and lab computers for class work only. If a student is found to be using the computer inappropriately, disciplinary action may result.

SUBSTANCE ABUSE POLICY

Englewood Hospital and Medical Center School of Radiography has a vital interest in ensuring a safe, healthy and efficient academic environment for our students and our patients. The unlawful or improper presence or use of controlled substances or alcohol in the hospital presents a danger to everyone. For these reasons, we have established, as a condition of enrollment with the school of radiography, the following substance abuse policy. Drug and/or alcohol testing is an integral part of our policy. This policy applies to all applicants and current students of the school of radiography.

Our policy is designed to protect an individual's privacy, to ensure the integrity and reliability of testing procedures, and to protect the confidentiality of individual test results and medical histories.

This policy represents management guidelines only and should not be interpreted as a contract of enrollment. Failure to comply with this policy will result in disciplinary action, up to and including, immediate termination.

A. Prohibited Conduct Concerning Alcohol and Illegal Drugs

1. Students are prohibited from reporting for duty or remaining on duty with an alcohol concentration of 20 mg/dL or greater following a "serum alcohol" test.
2. Students are prohibited from consuming alcohol during working hours, including meal and break periods.
3. Students must submit to any drug and/or alcohol test required under the Medical Center's Alcohol and Drug Policy.
4. Students are prohibited from engaging in the unlawful or unauthorized manufacture, distribution, solicitation, sale, transfer or possession of controlled substances and/or alcoholic beverages while on Medical Center paid time, on Medical Center premise, in Medical Center vehicles, or while engaged in Medical Center activities.
5. Students are prohibited from reporting for duty or remaining on duty when the student uses any drugs, except when the use is pursuant to the instructions of a licensed medical practitioner and such use does not create a danger or injury to the student or others.
6. Students are prohibited from continuing in the program if they have tested positive for drugs and/or alcohol.

B. Prohibition Against Attending Clinical While Using Any Medication Which Will Affect Safety or Performance

1. Use of any medication (therapeutic drugs) while engaged in Medical Center activities is prohibited to the extent such use may affect the health or safety of the student, peers, patients and/or the public, or the student's performance of his or her duties. In addition, the use of over-the-counter medications and other substances may result in a positive test result. Students will be given the opportunity to explain a positive test result to a licensed physician designated by the Medical Center to receive laboratory results generated by an employer's drug testing program, including the identification of recently used prescription or over-the-counter medications or other substances.
2. A student using any medication that contains alcohol or a controlled substance has an obligation to inquire and determine whether the substance the student is taking poses

a significant risk of substantial harm to the health and safety of the student or others in the clinical setting. If the student is using such a medication the student is required to obtain from the student's licensed medical practitioner a written statement providing either that the medication does not pose a significant risk of substantial harm to the health and safety of the student or others in the clinical setting or advises of any school restrictions applicable to the student.

3. Any such information must be reported to the student's immediate supervisor prior to commencing any clinical duties, without disclosing the identity of the substances or the student's medical condition. The supervisor must then report this information to the Employee Health Department. Students using such a medication must have the medication in its original container, which identifies the medication dosage, and other pertinent information, which will be reviewed by the Employee Health Department in consultation with the student's licensed medical practitioner.
4. Depending upon the results of the review, the physician designated by the Medical Center will consider whether the safety or health risk can be eliminated or sufficiently reduced by a reasonable accommodation, if applicable. A student may not be permitted to perform his or her clinical duties unless such a determination, or a reasonable accommodation, if any, has been made.

REQUIRED SCREENING TESTS

The requirements provided below apply to all current students of the school of radiography. Additionally, the pre-enrollment drug testing requirements apply to all applicants.

A. Pre-Enrollment Drug

All applicants to whom the Medical Center has extended a conditional offer of enrollment must submit to pre-enrollment drug testing and must receive negative test results as a condition of acceptance. Such testing will be conducted prior to the first time the individual performs any of his or her clinical duties.

B. Reasonable Suspicion Drug and Alcohol Testing

A student must submit to reasonable suspicion drug and/or alcohol testing when a manager, supervisor or instructor has reason to believe that the student has violated the drug and/or alcohol prohibitions contained in this policy. A reasonable suspicion determination must be based on specific, articulable observations, including but not limited to, the student's appearance, and behavior, speech, or body odors. In addition, these observations may include indications of the chronic or withdrawal effects of drugs and alcohol.

1. The alcohol and/or drug test should be administered within two hours but no later than after eight hours, from the reasonable suspicion determination.
2. The supervisor or manager who makes a reasonable suspicion determination will not conduct the drug and/or alcohol test.
3. The Hospital shall immediately transport or ensure transportation of the student to and from the collection of saliva, breath, blood and/or urine samples.
4. The student must submit to reasonable suspicion drug and alcohol testing upon request.
5. Documentation of the observations leading to a reasonable suspicion drug and/or alcohol test must be prepared and signed by the supervisor, manager or instructor making the observations.
6. The student will be suspended after the completion of the drug and/or alcohol tests, pending the test results. If the test results are negative, the student will be compensated for all time lost from school which is directly attributable to the request to take the test.

CONSEQUENCES FOR REFUSAL TO SUBMIT TO DRUG & ALCOHOL TESTS AND SUBSTANCE ABUSE POLICY VIOLATIONS

The Hospital has established the following consequences for applicants and students found to have violated the Substance abuse policy.

A. Positive Test Results

Any student who receives a confirmed positive drug and/or alcohol test result will be terminated. Any applicant who receives a confirmed positive drug and/or alcohol test result will be ineligible for enrollment with the school of radiography.

B. Refusal to Submit

A refusal by a student to complete the drug and alcohol testing forms, to provide an adequate specimen, to report directly to the collection site after notification, or otherwise cooperate with the test will constitute refusal to submit to a test and the student will be terminated. A refusal by an applicant to complete the drug and alcohol testing forms, to provide an adequate specimen, to report directly to the collection site after notification or otherwise cooperate with the testing process in a way that prevents the completion of the test will constitute a refusal to submit and the applicant will be ineligible for enrollment with the school of radiography.

C. Altered or Substituted Urine Specimens

Any student who alters or attempts to alter substitute a urine specimen will be terminated. Any applicant who alters or attempts to alter or substitute a urine specimen will be ineligible for enrollment with the school of radiography.

D. Policy Violations

If a student has violated this policy in any way (even for a first offense), the student will be immediately removed from his or her duties and will be subject to discipline, up to and including, immediate termination. If an applicant violates this policy in any way, the applicant will be ineligible for enrollment with the school of radiography.

COMPLIANCE WITH POLICY AS CONDITION OF ENROLLMENT

All applicants and students are advised that full compliance with this substance abuse policy shall be a condition of acceptance and continued enrollment with the school of radiography.

HARASSMENT POLICY

EHMC's School of Radiography is committed to maintaining an educational environment that is free of discrimination. In keeping with this commitment, the harassment of students by anyone, including any school official, instructor (didactic/clinical), peer or supervisor, or anyone else affiliated with the School or Medical Center will not be tolerated.

DEFINITION:

Generally, harassment consists of unwelcome conduct, whether verbal, physical, or visual, that is based upon a person's protected status, such as sex, color, race, ancestry, religion, national origin, age, physical handicap, medical condition, disability, marital status, veteran status, citizenship status, sexual orientation or other protected group status. This conduct must not interfere unreasonably with an individual's educational performance, or create an intimidating, hostile, or offensive environment.

This general anti-harassment policy includes a prohibition against sexual harassment. Unwelcome sexual advances, requests for sexual favors, and other physical, verbal, or visual conduct based on sex constitute sexual harassment when:

- submission to the conduct is an explicit or implicit term or condition of enrollment
- submission to or rejection of the conduct is used as the basis for program acceptance

- the conduct has the purpose or effect of unreasonably interfering with an individual's educational performance or school environment.

Sexual harassment may include unwelcome sexual advances, requests for sexual favors, explicit sexual propositions, sexual innuendo, suggestive comments, sexually oriented "kidding" or "teasing", "practical jokes", jokes about gender-specific traits, foul or obscene language or gestures, displays of foul or obscene printed or visual material, and physical contact, such as patting, pinching, or brushing against another's body.

PROCEDURE:

All students are responsible for helping to assure that harassment is avoided. If you believe that you have experienced or witnessed harassment, you are to immediately notify the program faculty or Human Resources Department. All complaints or reports of harassment will be promptly investigated and kept on a confidential basis to the extent possible. Anyone found to have engaged in such conduct is subject to appropriate disciplinary action, up to and including termination from the program.

Retaliation against anyone who has reported or complained of harassment is strictly forbidden.

CELLPHONES & ELECTRONIC DEVICES

The use of cellphones and other electronic devices (calculators are exempt) are prohibited in the clinical areas and in the classroom. It is the prerogative of the individual instructor to allow recording devices in their class. First offense to this policy will receive a warning, second offense will receive a write up and third offense will warrant a suspension. Any offenses after a suspension will result in termination. Cellphones must be in Silent Mode (Vibrate) or off when in a student's possession. Their use is permitted during breaks, lunch periods and with the approval of the immediate supervisor of the student in an appropriate area. If cellphone use is found to interfere with the students' progress, disciplinary measures will be taken. Emergency communication may be directed to the student through the Educational Coordinator's Office (Extension 3481).

STUDENT - TECHNOLOGIST RELATIONSHIP

Program officials assign students to a clinical area. The in-charge technologist will assign a Staff Technologist who will supervise you in that clinical area. This technologist will then be your immediate supervisor and is deserving of your complete attention and cooperation. A staff technologist must always be informed of your whereabouts. You must report to your supervising technologist whenever leaving or arriving to X-ray department. If there is any conflict with your staff technologist, you should make a request to speak to a program official. Maintain an appropriate professional relationship with any/all clinical instructors and staff.

SCHEDULES

Each student will be responsible for scheduled classes, clinical assignment, lunch schedule, break schedule or designated assignment as directed. If there are any changes to be made, they must be approved by the program officials.

Class schedules must be adhered to. You as a student are not to accept a patient assignment if you will not be able to complete the examination within five (5) minutes before a scheduled class.

With fact you are to inform the radiographer in charge that classes will begin shortly and that you will be unable to complete the case. The radiographer in charge may either reassign the patient or request that you start the examination with the understanding that you will be relieved five minutes before class is due to start. You are never to leave a patient in the middle of an examination until you have been relieved and until the individual relieving you is informed as to what is required of the exam.

If a student is 5 or more minutes late to a class, the student will not be permitted into the class and will be responsible to obtain missed notes and assignments. Chronic lateness will warrant disciplinary action.

SCHEDULED MEETING TIMES WITH FACULTY

If a student would like to meet with faculty for any reason other than an emergency (i.e., for help, to look at their folders, schedule a makeup), it is recommended that the student schedule this with the faculty member as much in advance as possible.

CHAIN OF COMMAND

The Chain of Command is to be adhered to in any cases involving complaints or conflicts. There will be no breaking the sequence of authority unless it is of the utmost urgency. It will be the responsibility of the members in the Chain of Command to keep the next in line of authority informed. The Chain: Student, Staff Technologist, Lead Technologist, Clinical Instructor, Clinical Coordinator, Educational Coordinator, Radiology Administrator, Radiologist (Medical Director).

RECORD OF ATTENDANCE

The student shall sign in on the attendance record sheet at the start of each day. He/she shall sign out at the end of each day. Students must sign in or out at the exact time of arrival or departure. **DO NOT SIGN IN OR OUT FOR THE ENTIRE WEEK IN ADVANCE.** Students may not sign in or out for anyone else.

LUNCH PERIODS AND BREAKS

Lunch periods and breaks will be assigned to the students by the proper supervisor according to the area to which the student is assigned. The lunch period is not to exceed the designated time. Students are not permitted to leave the hospital grounds without signing out before lunch. Students must return to their assigned area on time.

Students are strongly urged to limit their "Smoking Breaks" to their regularly scheduled breaks and lunch periods.

ACADEMIC MAKE-UP POLICY

Students are recommended to be present for all TESTS AND QUIZZES. If a student calls in sick on the day a test or quiz is scheduled, the make-up grade will be reduced by 10 points unless a doctor's note is provided. Make-ups must be taken on the day the student returns. If make-ups are not taken at that time, an additional 10 points will be deducted for each additional day's delay. If a student will be on vacation during the time of a scheduled test/quiz, arrangements for the make-up should be made with the instructor prior to their vacation. If possible, the make-up test/quiz should be scheduled before the vacation.

GRADING

ACADEMIC GRADING

FAILURE OF A COURSE OR 3 TESTS

A student must maintain a minimum of 77% in all didactic courses during both school years, to remain in the program. A student may not fail more than **two** tests per year in all courses to remain in the program. **Eight quizzes** failed in a year is equivalent to **one test** failure. All re-testing for failed test grades will be calculated by adding the original test score at two thirds value plus the re-test score at one third value. It is under the discretion of the program faculty to place students under Academic Probation for a minimum of ONE semester if the student is in jeopardy of failing and/or non-compliant with grading standards

CLINICAL GRADING

Student clinical grades are calculated based on their clinical competency grade average and their quarterly "affective domain" grades from the Clinical Instructors. The remaining sick time is also calculated into the grade. (See the Clinical section of this handbook for more information page: 39-71)

OVERALL STUDENT EVALUATIONS

Overall Student Evaluations include academic, clinical, and affective domain (attitude, professionalism & effectiveness) areas. The evaluations are done every three months and are discussed with the students. If a student receives three Overall Student Evaluation failures within the two-year time frame of the school, they will be dismissed from the program. Passing grade for an Overall Student Evaluation is a 2 on a scale of 1 - 3.

GRADUATION REQUIREMENTS

Upon successful completion of the 24-month education program, the student is awarded a diploma. The student must meet the following requirements to become eligible for graduation:

1. Successfully complete full attendance and tuition requirements.
2. Successfully complete academic requirements.
3. Maintain an 85% or above average for all clinical grading throughout the training.
4. Must obtain a minimum grade of 85% on 6 of the 8 overall (affective domain) evaluations.
5. Demonstrate knowledge of and respect for the code of ethics prescribed by the profession.

AMERICAN REGISTRY OF RADIOLOGIC TECHNOLOGISTS

Upon completion of the program, the graduate applies for and takes a computerized examination of 220 multiple-choice type questions given by the American Registry of Radiologic Technologists (A.R.R.T.). The application fee is paid by the student. The student must achieve a scaled score of 75% or higher, and then will become nationally registered and are entitled to use the initials R.T.(R) after their name. Any student who fails the examination may re-apply for testing. An eligible student is given only 3 attempts to pass the exam. Any student who fails three times must re-enroll and complete an accredited radiography program.

STATE LICENSURE

For a student to work in the State of New Jersey, they must be licensed by the Department of Environmental Protection's Radiologic Technology Board of Examiners. The student must submit the following: an application and fee; proof of completing our program; proof of holding at least a High School Diploma level of education and proof of passing the ARRT examination. No temporary licenses will be issued.

JOB PLACEMENT

The school will make every effort to assist graduates to obtain suitable positions but does not guarantee placement upon graduation. The school does not have a placement service.

DISMISSAL/TERMINATION

Students may be dismissed from the school for failure to show satisfactory academic and/or clinical achievement and/or tuition payment. Students may also be dismissed at the discretion of the faculty for cheating, misconduct, harassment, neglect of duty, dishonesty, failure to assume responsibility for school and hospital regulations, failure to develop essential professional qualities and violating procedures of the hospital/school.

CORRECTIVE GUIDANCE AND DISCIPLINE

The school believes that its students should be treated with dignity and respect. It also encourages the students to act in mature and responsible ways and to maintain appropriate standards of conduct.

The school assumes that when a student does something improper, it is a result of thoughtlessness or failure to perceive the rights of others (this includes outright illegal, unethical, or malicious acts where drastic discipline is called for). Thus, the school is promoting a policy of constructiveness and fairness. Its intention is to use guidance and discipline to correct undesirable behavior and not to punish or demean anyone.

Corrective guidance for failure to follow hospital/school rules will ordinarily follow this sequence:

PROCEDURE

1. Counseling and guidance
2. Documented verbal warning
3. Written warning
4. Suspension
5. Termination

It is important to remember that this progressive pattern is not automatic since corrective guidance must fit each individual case.

GRIEVANCE AND APPEALS PROCEDURE

Below is a formal grievance and appeals procedure that is to be followed by a Student Radiographer when a situation cannot be mutually resolved with a Technologist, Clinical Instructor, Clinical Coordinator or Educational Coordinator.

Step 1: The student should first present his/her appeal or grievance (within 5 days after the occurrence) to the Educational Coordinator both orally and in writing. The Coordinator will carefully review the matter and will give the student a written answer, with explanation within two school days.

Step 2: If the student does not receive a satisfactory and/or timely answer to his/her complaint, he/she may take the complaint to the Radiology Administrator. In this case, the student or the Coordinator may make the arrangements at the Radiology Administrator's office.

The student may seek the assistance of any one student or hospital employee not associated with the case, such as a hospital Chaplain, a fellow student, a hospital employee, or some appropriate supervisor, who will attend the Step 2 appeals meeting with the student. Step 2 meetings will be held within 5 school days from the date of request and a written answer will be given to the student within three school days after the meeting.

Step 3: If the student does not receive a satisfactory answer at Step 2, he/she may meet, upon request, with the Senior Vice President of the Hospital. A Step 3 meeting will normally take place within five school days from the date of the request, and the Senior Vice President's final and binding written decision will be rendered within five school days from the date of the third step meeting.

For all complaints and concerns of a less serious or informal nature, a complaint/suggestion box is available in the radiography classroom.

NON-COMPLIANCE PROCEDURE

At the onset of the Program, students are issued a copy of the Handbook, as well as a copy of the "Standards for an Accredited Educational Program in Radiologic Sciences" by the Joint Review Committee on Education in Radiological Technology.

If a student feels that the Program is not in compliance with the "Standards", the student has the opportunity to speak to the school officials regarding his/her concern. If the student is not satisfied with the outcome of this

meeting, he/she has the option to report his/her concern in writing to the JRCERT. The report must include the area of noncompliance and must bear the student's name and signature. It should be sent to the following address:

Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Dr.
Suite 2850
Chicago, IL 60606-2901
312-704-5300
Website: www.jrcert.org

A copy of the letter must also be sent to the:

State of New Jersey
Department of Environmental Protection
Division of Environmental Safety, Health and Analytical Programs
Radiation Protection Programs
P.O. Box 415
Trenton, NJ 08625
609-984-5890
Website: www.state.nj.us/dep/rpp

INTERESTING WEBSITES

American Registry of Radiologic Technologists: www.arrt.org
New Jersey Educators of Radiologic Imaging: www.njeri.com
American College of Radiology: <http://www.acr.org/>
Aunt Minnie: www.auntminnie.com
Learning Radiology: <http://learningradiology.com/>
Pb Markers: <http://www.pbmarker.com/>

STUDENT GUIDANCE AND ASSISTANCE POLICY (EAP PROGRAM)

It is the policy of Englewood Hospital and Medical Center to provide counseling services to all employees and students.

Our Employee Assistance Program is designed to serve as a confidential counseling service for individuals experiencing personal problems before your family relationships, your health and your schooling are impacted.

The highlights of the plan are:

- * A toll-free number - 1-(800)531-0200.
- * Counselors available 24 hours a day, 7 days a week immediate telephone intervention.
- * Up to 1-3 face to face counseling sessions with a professional therapist when needed.
- * Referral for long term counseling coordinated with your health insurance benefits.
- * Complete confidentiality.

PREGNANCY POLICY

If a student voluntarily declares her pregnancy in writing, with an approximate date of conception, the school shall comply with the following requirements published at N.J.A.C. 7:28-19.13(f)4:

- i. Provide instruction regarding radiation exposure and risks as they relate to the embryo-fetus and pregnancy.

- ii. Provide program enrollment options to accommodate pregnancy while allowing the student to complete the curriculum. If the student elects to continue with her education within the radiologic technology program, the school shall ensure that a personnel radiation-monitoring device is worn at the waist level during the term of her pregnancy.
- iii. If the student has the potential of engaging in fluoroscopic or portable radiographic procedures, provide to the student with and require her to wear two personnel radiation-monitoring devices. One device shall be worn at the neck level outside the protective apron and the other under the protective apron at the waist level.
- iv. Limit the student's exposure, as registered on the personnel radiation-monitoring devices, in order that the exposure of the embryo-fetus does not exceed the most recent recommended limit published by the National Council on Radiation protection and Measurements (NCRP). As of August 18, 2008, the recommended limit is contained in the NCRP Report #116 entitled Limitation of Exposure to Ionizing Radiation. The publication can be obtained from NCRP by contacting them at 7910 Woodmont Ave., Suite 400, Bethesda, MD. 20814 or at www.ncrponline.org. This report recommends a monthly equivalent dose limit of 50 mREM (0.5 mSv) to the embryo-fetus (excluding medical and natural background radiation) once the pregnancy is known. The Deep Dose Equivalent reported for the device worn at the student's waist will be considered the initial estimated dose received by the embryo-fetus.
- v. Within seven calendar days of the school's receipt of the radiation dosimetry report, the school shall inform the pregnant student of her most recent exposure readings. If the Deep Dose Equivalent in any month is 50 mREM (0.5 mSv) or higher, the school and student shall consult with a medical physicist or health physicist, who is certified by the American Board of Radiology, American Board of Medical Physics, American Board of Health Physics or the equivalent as determined by the Commission; and submit to the State, with a copy to the student, a report of the consultation provided in N.J.A.C. 7:28-19.13(f)14v, if required, including any recommendation(s), assignment modifications and student's exposure history, within 21 days of the school's receipt of the radiation dosimetry report.

PROGRAM PREGNANCY POLICY

The program's pregnancy policy allows a pregnant student the option of whether or not to inform program officials of her pregnancy. If the student chooses voluntarily to inform officials of her pregnancy, it must be in writing and must indicate the expected date of delivery. In the absence of this voluntary, written disclosure, a student cannot be considered pregnant.

If the student chooses to disclose her pregnancy, she has the option of continuing the educational program without modification or interruption. Other options include modification of clinical assignments, leave of absence from clinical assignments, and/or leave of absence from the program. This policy allows the pregnant student to make an informed decision based on her individual needs and preferences.

Upon confirmation of a pregnancy, the student may discuss with the radiation safety officer the topic of prenatal radiation exposure and safety practices. The student must sign a Memo of Acknowledgment Form indicating that she has received and read the program's policy regarding pregnant employees/students working in radiation areas and the Regulatory Commission's Regulatory Guide 8.13 "Instruction Concerning Prenatal Radiation Exposure" and its appendix.

The student must then discuss the available options with the Educational Coordinator and form a mutual agreement concerning her educational continuation.

AVAILABLE OPTIONS

1. If the confirmation of pregnancy occurs within the last nine months of the program and the student can complete all the school's requirements, the student can choose to remain in the current program and graduate.

2. Upon confirmation of pregnancy, the student may follow hospital/departmental policy number 30.8 "... may be exempt from fluoroscopy, mobile radiography."

The student may continue didactic and clinical hours up to the time of delivery unless medically contraindicated. Missed clinical and didactic assignments must be made up before a diploma is granted. Clinical competencies must be completed in the areas as dictated by the program. Sick and vacation time may be accrued and applied to the student's leave of absence.

3. If confirmation of pregnancy occurs prior to the last nine months of the program and whereby didactic requirements are unfulfilled, the student may choose to take a leave of absence and reenter the following year. No additional entrance fees or application requirements are necessary. All clinical requirements must be fulfilled as outlined in the handbook.

A form outlining the student's decision must be written up immediately, then signed by the student and the Educational Coordinator.

A Declaration of Pregnancy form outlining the student's decision must be written up immediately, then signed by the student and the Educational Coordinator.

A decision not to report a pregnancy to the Educational Coordinator is the sole responsibility of the student and any of the above accommodations are not the responsibility of the program.

A student may 'un-declare' the pregnancy in writing at any time. The student may then resume her responsibilities of the program in the usual capacity.

PREGNANCY DECLARATION FORM

Student: _____

D.O.B: _____

Date of Conception [Mo./Yr.]: _____

S.S.N: _____

I am submitting this Declaration of Pregnancy to inform my Program Director and Clinical Coordinator of The School of Radiography at Englewood Hospital Medical Center that I am pregnant as of the date shown above.

I have chosen option # _____ of the pregnancy policy as explained in the Student Handbook of the EHMC School of Radiography.

I fully understand the policy and have discussed it with the Clinical and Educational Coordinators.

- My exposure will not be allowed to exceed 5 mSv (500 mREM) during my entire pregnancy from occupational exposure to radiation.
- This limit includes exposure I have already received.
- If my estimated exposure has already exceeded 5mSv (500 mREM), I will be limited to no more than 0.5 mSv (50 mREM) for the remainder of my pregnancy
- I may revoke this declaration at any time without explanation by submitting a signed and dated statement requesting the revocation.

Student Signature

Date

AKNOWLEDGEMENT OF DECLARATION OF PREGNANCY

I acknowledge that the above individual has submitted to me a Declaration of Pregnancy statement. I understand it is my responsibility to forward this form to the Radiation Safety Officer (RSO) and/or Medical Physicist to ensure that this individual is properly trained about potential exposure risks to their unborn child.

Jade Marrero, R.T. (R) (ARRT)
Program Director

Date

CLINICAL INFECTION PREVENTION PROCEDURE

PURPOSE:

To provide a workable guide to Radiography Students for the care of patients with potentially communicable diseases and to protect the patient as well as the students from unnecessary exposure to a potentially contaminated environment. To prevent cross infection and secondary infections.

Standard precautions are designed to protect health care workers from exposure to potentially infectious agents through the use of barriers such as gloves, gowns, masks, and protective eye wear.

All patients have organisms present in their body substances such as respiratory secretions, feces, oral secretions, emesis and sometimes urine and wounds that are causing heavy colonization without causing an "infection". Standard precautions reduce the risk of transmitting these organisms as well as those from patients who are obviously "infected" and therefore a visible source of contamination.

Patient contact, not involving blood/body substances, or contact with items not contaminated with such, does not require the use of protective barriers.

If unanticipated exposure does occur, wash hands immediately, apply barriers, clean up body substances as necessary and proceed with patient care.

If injury (puncture wound, needle stick or mucous membrane splash) occurs, report and follow hospital policy.

Transmission based precautions are applied based on the infectious status of the patient.

The following guidelines are provided to assist you in moving into standard precautions smoothly. They represent the minimum requirements for patient care activities during controlled situations. The list cannot be all inclusive. Judgment will be required on the part of the Healthcare workers to assess the need for barrier precautions in individual situations.

If a student has an open cut or abrasion on the hand, he or she is responsible for protecting it through the use of gloves.

Sterile technique is to be used during sterile procedures. Students will be routinely updated by the hospitals Infection Prevention Department reading policy.

INFECTION PREVENTION POLICY

The Englewood Hospital and Medical Center has established definite guidelines related to the reporting of communicable diseases by all employees, students, volunteers, and contingents.

In compliance with the Hospital's policies, the School of Radiography will continue to require all candidates and students to report to the Employee Health Service prior to acceptance. Also, any unusual exposure to any form of communicable disease must be reported immediately to the Employee Health Service.

The School of Radiography will abide by any decisions rendered with regard to the admission of candidates and the continuation of education of the student in such matters. When and if a student must leave the program and again becomes eligible to return to the program, various options for completion will be offered the individual after a study of the student's progress is made and a determination of status can be completed.

INFECTION PREVENTION POILCY SIGN-OFF SHEET

I _____ understand the importance of my compliance with the provisions of the Infection Prevention policy that has been outlined for me.

I understand that this "Policy Sign Off" sheet will be placed in my student file. I have read the above documentation and agree to utilize the precautions taught to me by EHMC and the School of Radiography at all times during my placement as a student.

Student: _____

Date: _____

Jade Marrero, R.T. (R) (ARRT)
Program Director

Date: _____

VENIPUNCTURE POLICY

The School of Radiography follows the policy as mandated by the State of New Jersey Dept. of Environmental Protection which states that upon successful completion of the venipuncture course, it is up to the discretion of the Department Administrator to permit students to perform venipuncture. Students must successfully participate and complete Venipuncture class and its requirements.

At present, students are not permitted to perform venipuncture on patients here at EHMC or its satellite outpatient site.

REPEAT RADIOGRAPH POLICY

Unsatisfactory radiographs shall be repeated **only** under the direction and in the physical presence of a New Jersey licensed diagnostic radiologic technologist, regardless of the student's level of competency.

CURRICULUM**Junior Year**

<u>Semester 1</u>	<u>Credits</u>	<u>Instructor(s)</u>	<u>Hours</u>
<i>July through December</i>			
Clinical Education I	2 cr.	Clinical Instructors	440
Orientation & Protection	2 cr.	P. Foster	30
Professional Ethics	2 cr.	J. Marrero	30
Anatomy & Osteology	3 cr.	M. Livingston	45
Medical Terminology	3 cr.	J. Marrero	45
Radiographic Math	1 cr.	P. Foster	15
Radiographic Procedures I	4 cr.	P. Foster	60
Intro. to Equipment Operation	.5 cr.	T. Larca	7.5
Image Production & Evaluation I	3 cr.	P. Foster	45

<u>Semester 2</u>	<u>Credits</u>	<u>Instructor(s)</u>	<u>Hours</u>
<i>January through June</i>			
Clinical Education II	2 cr.	Clinical Instructors	440
Anatomy & Physiology I	2 cr.	M. Livingston	30
Image Production & Evaluation II	2 cr.	P. Foster	30
Radiographic Procedures II	4 cr.	P. Foster	60
Patient Care & Management	3 cr.	J. Marrero	45
Intro. to Disease	2 cr.	P. Foster	30
Equipment Operation & Maintenance	2 cr.	T. Larca	30

Senior Year

<u>Semester 3</u>	<u>Credits</u>	<u>Instructor(s)</u>	<u>Hours</u>
<i>July through December</i>			
Clinical Education III	3 cr.	Clinical Instructors	660
Radiographic Procedures III	2.5 cr.	P. Foster	37.5
Image Production & Evaluation III	2 cr.	P. Foster	30
Special Procedures I	1 cr.	J. Marrero	15
Anatomy & Physiology II	2 cr.	M. Livingston	30
Professional Development	2 cr.	P. Foster	30
Digital Imaging Technology I	3 cr.	P. Foster	45
Quality Control/Equipment Operation	2 cr.	P. Foster	30

Semester 4	Credits	Instructor(s)	Hours
<i>January through June</i>			
Clinical Education IV	2 cr.	Clinical Instructors	440
Intro. to Venipuncture & EKGs	1 cr.	J. Hau-Celestina RN	15
Radiation Biology	1 cr.	P. Foster	15
Anatomy & Physiology III	2 cr.	M. Livingston	30
Special Imaging Modalities	1 cr.	J. Marrero	15
Special Procedures II	1 cr.	J. Marrero	15
Digital Imaging Technology II	3 cr.	P. Foster	45
Radiographic Procedures IV	2 cr.	P. Foster	30
Registry Exam Preparation	3 cr.	P. Foster	45

Total Didactic Credits = 62
Total Didactic Program Hours = 930

Total Clinical Credits = 9
Total Clinical Program Hours = 1980

II. Academic Course Credit Formulation:

<u>Instructional</u>	
<u>Hours</u>	<u>Credits</u>
15	1
30	2
45	3

Clinical Course Credit Formulation:

<u>Clinical Hours</u>	<u>Credits</u>
220	1

COURSE DESCRIPTIONS

Core Imaging Courses

The curriculum content (subject to A.S.R.T modifications) of all courses is as follows:

SEMESTER 1

Orientation and Radiation Protection - The student learns the characteristics and the effects of radiation. Methods of protection to patient and self are emphasized. This course is also structured to familiarize the new student with the goals, philosophies and organizations of the radiography program and the corresponding radiology department. Students are introduced to medical radiography history, the evolution of radiography and the professional organizations associated with the health fields. The general intent of this course is to inspire high standards and goals for the students' professional expansion. The student will realize the valuable part that radiology plays in medicine and in patient care.

Prerequisite: Program Acceptance

Professional Ethics - This course provides the student with the ethical principles so essential to our daily professional activities. We stress the respect needed for interpersonal relationships, teamwork, moral and ethical responsibilities, communication, and empathy for the patient. Medico-legal considerations are discussed regarding the student's legal and ethical responsibilities. The importance of Professional Societies and Accrediting agencies are discussed, and student involvement is stressed.

Prerequisite: Program Acceptance

Anatomy and Osteology - This course is designed to teach the student about the skeleton - its bones, their various parts, markings, and articulations. Terminology related to the bones of the skeleton are also presented. Medical terminology is also incorporated related to the skeleton as well as body planes and topographical markings.

Prerequisite: Program Acceptance

Medical Terminology – This course is designed to enable the student to read, write and speak the medical language to a level of effective functioning and communication within the medical field. Medical abbreviations, symbols, and terms which the radiographer will use through his or her career are stressed throughout the course.

Prerequisite: Program Acceptance

Radiographic Math - This course gives the student a review of basic mathematical skills. Calculations with fractions, decimals, percentages, and ratios are reviewed, as well as basic algebra. Inverse Square law and Direct Square law are also covered. This course is given so that basic math pertinent to various courses in the program can be easily applied by the student.

Prerequisite: Program Acceptance

Radiographic Procedures I - The purpose of this course is to introduce the student to the preliminary concepts of radiographic positioning. These concepts will include but are not limited to; image receptors, clinical history, display of radiographs, anatomic and radiographic positions, patient attire, age specifics, identification of radiographs, patient shielding, bariatric imaging, radiographic accessories, compensating filters, general anatomy and positioning terminology. The student will also learn essential and select non-essential procedures in chest, abdomen, pediatric, mobile, trauma & skull radiographic positioning. The student is exposed to didactic instruction as well as direct demonstration and familiarization with radiographic procedures. Under direct supervision, the student will progress to an efficient and effective level of procedure competence in the Radiology Department.

Prerequisite: Program Acceptance

Introduction to Equipment Operation – This is designed to provide the student with an introduction to the field of radiologic physics. Areas of study will include the structure of matter, electromagnetic energy, units of measure, mechanics of physics, types of ionizing radiation, the electromagnetic spectrum, electromagnetism, magnetism, and aspects of the radiologic imaging systems & radiographic equipment

Prerequisite: Program Acceptance

Image Production and Evaluation I - Upon completion of this course, the student will employ technical factors to yield the optimum radiographic results. Radiographic qualities and their influences are discussed and viewed. This would include receptor exposure, contrast, distortion, detail (resolution) and visibility of detail. Math formulas influencing radiographic quality are practiced. This includes compensation formula for SID change, 15% rule, PE formula, magnification factor and the formula for unsharpness.

Prerequisite: Radiographic Math

SEMESTER - 2

Anatomy and Physiology I - Examinations performed by the radiographer require a basic knowledge and understanding of the human body and its structure and function. This course is designed to give the student the knowledge of the various body systems, structures, organs, functions, and body integration. Body quadrants, regions and organ locations are discussed. Cells, cell division, tissues, Integumentary system, muscular skeletal system, as well as blood and its components and functions are covered in this course.

Prerequisite: Anatomy and Osteology

Image Production and Evaluation II- Beam restricting devices and shielding, along with radiation protection through other devices are utilized in conjunction with image quality improvement and limited radiation exposure. Automatic exposure control is introduced including its use, components, benefits, and restrictions. Image Intensification is introduced including its purpose, its components and how they influence patient dose, magnification, and resolution. Radiation protection of the patient and technologist is also reviewed.

Prerequisite: Image Production and Evaluation I

Radiographic Procedures II - The purpose of this course is to teach the student in general positioning radiography of the upper extremities, lower extremities, pelvis & upper femora, spine, and bony thorax. Along with didactic education, the student is exposed to direct demonstration and familiarization with radiographic procedures. Under direct supervision, the student will progress to an efficient and effective level of procedure application in the Radiology Department.

Prerequisite: Radiographic Procedures I

Patient Care & Management - The purpose of this course is to prepare the student by defining and distinguishing the medical procedures and techniques inherent with patient care. We emphasize the role of the technologist in various nursing situations. This includes infections control, patient transfer and proper body mechanics, sterile technique and gowning, and surgical asepsis. Students are taught proper patient assessment, while recognizing and dealing with acute situations. Bedside radiography with special conditions and environments will also be taught. Pharmacology as it applies to radiographic procedures is included as well.

Prerequisites: Medical Terminology

Introduction to Disease - This course identifies various pathologic conditions of the body and their impact on radiographic procedures. The diseases presented are summarized and related to diagnostic radiographic care. The effective and empathetic care of the patient (seriously ill or traumatized) is accentuated for better student/patient rapport.

Prerequisites: Medical Terminology

Equipment Operation and Maintenance - This course is designed to illustrate the fundamentals of electromagnetic radiation physics and the basic principles underlying the operation of x-ray equipment and auxiliary devices. Lecture, discussion, visual aids, equipment evaluation and demonstration enhance course content. The overall intent of this course is to enlighten the student radiographer to the fundamental principles, operation and application of radiation-producing imaging equipment used in diagnostic imaging. Topics include atomic structure, radiation, diagnostic x-ray circuit, image intensification, and mobile and automatic exposure control units. Radiation safety and patient care principles are also reinforced.

Prerequisite-Introduction to Equipment Operation and Maintenance

SEMESTER 3

Radiographic Procedures III - The purpose of this course is to teach the student the positioning techniques for Skull, surgical procedures, long bone measurement, & image critique. Along with didactic education, the student is exposed to direct demonstration and familiarization with radiographic procedures. Under direct supervision, the student will progress to an efficient and effective level of competence in the Radiology Department.

Prerequisites- Radiographic Positioning I and II

Image Production and Evaluation III –Students are given an in-depth review of radiographic quality and its influences. This includes receptor exposure, contrast, detail, distortion (size and shape) as well as visibility of detail. Students are also given a detailed review of imaging equipment including fluoroscopy, image intensification, and AEC. Radiation protection to the patient and occupational workers is emphasized. Also included are Federal regulations regarding radiation exposure limitations, room, and imaging equipment requirements.

Special Procedures I- The student is instructed in the pharmacology of the radiology department, and general patient care for invasive procedures. Basic principles of the types of contrast media, their contraindications and methods of administration and use are discussed. The students will become familiar with the instrumentation, accessories, and principles for invasive procedures.

Prerequisites: Introduction to Disease

Anatomy and Physiology II - As with A&P I, examinations performed by the radiographer require a basic knowledge and understanding of the human body and its structure and function. This course is designed to give the student further knowledge of the various body systems, structures, organs, functions, and body integration. Cardiovascular, systemic and lymphatic circulation and the nervous system with its various parts are covered.

Prerequisite- Anatomy and Physiology I

Professional Development-Medical ethical issues are discussed as it relates to patient care, hospital administration, assisted suicide and policies related to various types of insurance reimbursement. Students watch a variety of movies regarding medical ethical topics and then write about the issues that are addressed and their feelings regarding them.

Digital Imaging Technology I - This provides the student with a basic understanding of a computer, its components, and its terminology in relation to image production. The course provides an overview of the many uses for computers in radiology, including computerized and direct radiography. Computer techniques in various imaging modes, as well as its great value in organizing a modern radiology department, are presented. The student will be instructed in digital imaging to include introduction, basic principles, image characteristics, image processing and manipulation.

Prerequisites: Image Production and Evaluation I & II

Quality Control with Equipment Operation - Radiography equipment and circuitry are reviewed as they relate to image production and radiation output. This course includes concepts of quality assurance, preventive maintenance of the various equipment used, testing tools, and frequency of tests and acceptable parameters of the various QA/QM tests.

Prerequisites: Image Production and Evaluation II, Equipment Operation and Maintenance

SEMESTER 4

Introduction to Venipuncture and EKG's- This course provides the student with the basic techniques of Venipuncture and the administration of contrast media and/or intravenous medication. The theory and practice of basic EKG techniques (12 lead system) are also provided to the student.

Prerequisites: Patient Care & Management

Radiation Biology - This course addresses potentially damaging effects of ionizing radiation on biologic systems. The course communicates the professional obligation of the radiographer regarding the practice of radiation safety measures. Upon completion of this course, the student will be able to describe the cell and discuss the function of its parts, define radiobiology, describe early and late effects to tissues and organs from radiation, describe the risk-versus-benefit decisions made by health physicists, identify standards and regulations for radiation protection, explain quality assurance and quality control, use a microcomputer and appropriate software and identify strengths and weaknesses in radiographic exposure, patient care, equipment maintenance, anatomy and positioning.

Prerequisites: Orientation and Protection

Anatomy & Physiology III- Examinations performed by the radiographer require at least a basic understanding of the human body, its structure and function. This course is designed to teach the various body systems, structures, organs, functions, and body integration.

Students will be taught the following systems: Endocrine, Reproductive, Embryology, Digestive, Respiratory and Urinary.

Prerequisites-Anatomy & Physiology I and II

Special Imaging Modalities- This course enables students to comprehend and distinguish between the different modes of imaging systems such as image intensification, fluoroscopy, video, cine, ultrasound, digital subtraction, CT scanning and MRI. Nuclear Medicine (PET scan) and Radiation Therapy are also introduced, as well as Mammography. The Mammography lecture includes risk factors for breast cancer as well as signs and symptoms of benign and non-benign pathology. Basic positioning is demonstrated and various specialized breast imaging and biopsy techniques are discussed.

Prerequisites-Anatomy and Physiology I & II, Introduction to Disease

Special Procedures II - This course will enable the student to become versed in the various invasive procedures utilizing radiographs, such as myelography, angiography, arteriography, lymphangiography, sialography, cardiac procedures, genitourinary exams, and hysterosalpingograms. The student will also be taught the pre- and post-procedural care required for such patients.

Prerequisite: Special Procedures I

Digital Imaging Technology II - This course is structured to enable students to understand the principles, acquisition, equipment and application of digital radiography. The uses and components of PACS are also included, such as basic computer principles, networking, archiving techniques and peripherals. Quality control and management are covered in this course as well. The student will understand the different types of digital imaging such as CR, IDR, and DDR.

Prerequisite: Digital Imaging Technology I

Radiographic Procedures IV- The purpose of this course is to teach the student the positioning for contrast arthrography, sialography, & exams of the reproductive, circulatory, and nervous system. Along with didactic education, the student is exposed to direct demonstration and familiarization with radiographic procedures. Under direct supervision, the student will progress to an efficient and effective level of competence in the Radiology Department.

Prerequisites- Radiographic Positioning I, II & III

Registry Exam Preparation - All the major subjects covered in the educational program are reviewed to prepare students for the A.R.R.T. registry examination. This is done through training in test-taking techniques and sample testing with review. An assignment outlining portions of the Registry Specifications is assigned. A mid semester comprehensive midterm is administered as well as a final exam are administered at the end of the course.

Prerequisites: Successful completion of first 3 semesters

FERPA - Family Educational Rights and Privacy Act (BUCKLEY AMENDMENT)

FROM: Office of the School of Radiography
Englewood Hospital and Medical Center
Englewood, N.J.

TO: All Students

RE: School Policy in accordance with the directive of the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment).

AUTHORITY: The Family Educational Rights and Privacy Act of 1974 ("FERPA"), § 513 of P.L. 93-380 (The Education Amendments of 1974), was signed into law by President Ford on August 21, 1974, with an effective date of November 19, 1974, 90 days after enactment. FERPA was enacted as a new § 438 of the General Education Provisions Act (GEPA) called "Protection of the Rights and Privacy of Parents and Students," and codified at 20 U.S.C. § 1232g. It was also commonly referred to as the "Buckley Amendment" after its principal sponsor, Senator James Buckley of New York.

APPLICABILITY:

The Family Educational Rights and Privacy Act is designed to permit parents and students to have access to certain student records maintained by educational institutions and to restrict the access of such records to third parties. The amendment applies to all educational institutions, including private schools, which receive funds under programs administered by the U.S. Commissioner of Education. The School of Radiography is a recipient of Basic Educational Opportunity Grants administered by the Commissioner; therefore the school is subject to the Amendment.

The Family Educational Rights and Privacy Act accords certain rights to parents of students or to "eligible students". An eligible student is one who has attained 18 years of age, or who is attending an "institution of post-secondary education" such as the Englewood Hospital School of Radiography. Since the amendment provides that when a student becomes an eligible student, his or her parents no longer retain the rights granted to them in the Amendment, the School of Radiography will normally be concerned with the rights of its students, rather than their parents, in complying with the Amendment.

Three types of information are referred to in the Amendment: "education records", "directory information", and "personally identifiable" data or information. Generally, "education records" include all written material which contain information directly related to the student except the private notes of teacher, law enforcement record, employee records and physician and psychiatric records. "Directory Information" includes certain types of statistical information about a student such as the students' name, address and birth date. "Personally identifiable" information includes data such as the students' name or social security identification number which would make it possible to identify the student with reasonable certainty. Since these terms as used in the Amendment or in this letter, you may usually assume that such information does not fall within the scope of the Amendment.

NOTIFICATION:

The program will inform students each July of the rights accorded to them by the Amendment. At that time students may request to sign a waiver form indicating their preference as to who may have access to their "education records".

EDUCATION RECORDS:

The following is the list of the types of "education records" and the information contained in those records which are maintained by the School Office on the students' files where applicable.

ACADEMIC TRANSCRIPTS

Academic transcripts contain the student's name, month, and day of their birth and the last four digits of their social security number. Also included are grades for courses in each in the four semesters, grade average per year as well as the final average for the two years.

STUDENT EVALUATION FORMS:

These forms are completed bi-weekly during the first three months of the program by the technologist in whose assigned area the student is designated for clinical practice. It is an evaluation of the clinical proficiency and the personal characteristics of the student as noted by the technologist during those two weeks of clinical practice. These forms are used only in the first three months of clinical practice.

WARNING NOTICE:

This form is completed by the program and indicates a serious or maintained infraction of a rule or rules of the School or Hospital. This warning is usually given prior to a suspension or other type of disciplinary action. The notice contains the name of the student, the date, the reason for warning, comments or explanations for the warning and any disciplinary action that is to be taken. The warning notice is signed by a program official and by the student to whom the warning applies.

SUSPENSION NOTICE:

This form is completed by the program and is usually the result of multiple warning notices or a serious infraction of a rule or rules. The notice contains the name of the student, the date, the comments, and explanations concerning the suspension and the resulting disciplinary action recorded. The suspension notice is signed by the Educational Coordinator and/or the Clinical Coordinator and by the student to whom the suspension applies.

COMPETENCY BASED CLINICAL EDUCATION

Competency Based Clinical Education is a progressive approach to the clinical development of a student. Students begin this process by observing an examination or groups of examinations. After didactic and laboratory instruction along with student demonstration of positioning skills, the student then proceeds to the participation stage of the Competency Based Clinical Education system.

In the participation stage, the student may now assume a more active role in his/her clinical responsibilities. However, students may only perform those radiographic examinations, which were previously taught in the classroom and laboratory. Students shall perform these examinations under direct supervision.

The final stage in a Competency Based Clinical Education system is the ability of a student to perform radiographic examinations under indirect supervision. Before the student can achieve this level of supervision, he/she must demonstrate competency through Clinical Competency Evaluations.

In accordance with the policy of Competency Based Clinical Education Policy from the Radiologic Technology Board of Examiners of the State of New Jersey, there is no longer a minimum number of clinical education hours mandated. The recommendation now states that the number of clinical education hours should be sufficient for a student to accomplish the program's required number of clinical competency evaluations. This policy is designed to produce entry level skilled graduates who are both competent and compassionate. The affective aspect of our clinical education is not overlooked, and this domain is integrated throughout our curriculum.

THERE IS NO POLICY TO MAKE - UP MISSED CLINICAL TIME

CLINICAL PROCEDURE

The Radiologic Technology Board of Examiners has identified a 5-step process in a Competency Based Clinical Education System. Didactic instruction, laboratory instruction, observation, documented laboratory proficiency and performance of procedures.

1. Didactic instruction is provided through the course curriculum.
2. Laboratory instruction, or by demonstration of positioning skills under simulated conditions.
3. The student has rotations in various areas of the radiology department to observe examinations.
4. The student demonstrates documented laboratory proficiency for all mandatory and elective procedures.
5. The student continues to observe radiographic procedures and gradually progressed to the participation stage under direct supervision. The following parameters constitute direct supervision:

The licensed radiographer shall:

- a. Review the request for examination in relation to the student's achievement.
- b. Evaluate the condition of the patient in relation to the student's knowledge.
- c. Be present in the room and supervise during the performance of the examination.
- d. Review and approve the radiographs.

INITIAL COMPETENCY EVALUATIONS

Prior to attempting an Initial Competency Evaluation, a student shall complete the following:

- a. Didactic proficiency
- b. Documented laboratory proficiency
- c. A predetermined number of examinations under direct supervision prior to requesting an evaluation on an examination or series of examinations, also known as "carding".

CONTINUAL COMPETENCIES

Five individual category continual competencies must be completed by all students. Continual competencies can be performed randomly on the students as the instructors deem necessary or at the student's request. Only previously performed initial competencies are subject to a continual competency. Continual competencies will be performed on patients of an increased level of difficulty by comparison to the student's ICE.

TERMINAL COMPETENCY EVALUATIONS

Prior to graduation, the student must demonstrate final competency in clinical education. This is accomplished by Terminal Competency Evaluations (TCEs). Before a student can advance to this level of competency, he/she must complete the program's requisite amount of mandatory, elective, & continual clinical competency evaluations. Terminal competencies will be performed on patients an increased level of difficulty by comparison to the student's ICE & CCE.

GUIDELINES FOR INITIAL CLINICAL COMPETENCY EVALUATIONS

1. Each student will be required to perform 37 mandatory and 15 elective clinical competency evaluations (ICEs) prior to completion of the program. At a minimum, a total of 29 different procedures must be performed on patients.
2. The 37 mandatory ICEs should be accomplished on patients; however, 8 can be performed under simulated conditions. Of the electives all may be simulated, if necessary; however, the EHMC S.O.R. does not encourage this. It is in the best interest of the student, as a future radiographer, to perform all competencies on "live" patients. * Please note, due to the reduced level of difficulty associated with a competency performed under simulated conditions, a maximum grade on SCEs will be 90%.
3. It is recommended that ICEs be performed on patients whose difficulty level is comparable to the student's level of experience. (e.g. ambulatory, adult non-trauma)
4. A student should not attempt to do an ICE on an exam until the student has completed steps 1-5 of the Competency Based Clinical Education noted on page 39.
5. Junior students must perform and acquire 2 examination "cards", under direct supervision before requesting an evaluation. Seniors must perform and acquire 1 examination "cards" under direct supervision prior to requesting an evaluation. ICE forms must be signed by the clinical instructor that provided direct supervision for the examination. Senior students may request, from the Program faculty, that the carding system be waived for **simulated procedures only**.
6. Junior students will be given ICEs to perform throughout their entire year. Junior students will have direct supervision throughout their entire year.
7. Senior students may perform examinations in which competency has been demonstrated under indirect supervision. Supervision shall be provided by a NJ licensed Radiographer who is immediately available to assist students regardless of the level of student competency. ("Immediately available" is interpreted as the presence of a NJ licensed radiographer who is in the room or in an area adjacent to the room or hallway where a radiographic procedure is being performed. This availability applies to all areas where ionizing radiation equipment is in use.)
8. Unsatisfactory radiographs shall be repeated only under the direction and in the presence of a NJ licensed radiographer, regardless of the student's level of competency.
9. Any examination in which a student has demonstrated competency shall be subject to continual competency evaluations in each category at any time by the program officials.
10. Senior students are directed to have all ICEs completed within the first 8 months of senior year. All ICEs and CCEs must be completed before advancing to Terminal Competencies.
11. If a student attempts an ICE and is unsuccessful in obtaining a passing grade, the following steps should be followed:
 - a. The instructor will review the evaluation form with the student.

- b. The instructor will highlight the student's area of weakness as well as praising the student's strength.
- c. The instructor will share the competency-based flow chart with the student. This flow chart will help the student recognize what steps can be taken to improve their performance skills.
- d. If the student, then passes the category re-test they may then continue to the next step. If the student fails, the category re-test their status as a student will be **terminated**.
- e. The instructor will demonstrate to the student the clinical skills necessary to obtain competency in the ICE under simulated conditions.
- f. The student will then demonstrate to the instructor that competency is achieved under simulated conditions.
- g. The student will then proceed to the actual evaluation portion. This ICE cannot be done with a clinical instructor. All remedial competencies must be performed only under the supervision of program faculty.
- h. The time frame for the completion of this remedial plan will be a one-month period.

GUIDELINES FOR SIMULATED CLINICAL COMPETENCY EVALUATIONS

1. Simulated competencies may only be performed during the last four months of the program.
2. Simulated competencies may only be performed by program faculty.
3. Each student will be required to perform 37 mandatory and 15 elective clinical competency evaluations (ICEs) prior to completion of the program.
4. The 37 mandatory ICEs should be accomplished on patients; however, 8 can be performed under simulated conditions. Of the electives all may be simulated, if necessary; however, the EHMC S.O.R. does not encourage this. It is in the best interest of the student, as a future radiographer, to perform all competencies on "live" patients. * Please note, due to the reduced level of difficulty, a maximum grade on simulated competency will be 90%.
5. A student should not attempt to do an SCE on an exam until the student has completed steps 1-5 of the Competency Based Clinical Education noted on page 39.
6. Supervision status for senior students may who perform simulated examinations is to remain in the category of direct supervision. If a student wishes for their exam status to be upgraded to indirect, they must perform an additional competency on a "live" patient.
7. Any examination in which a student has demonstrated competency shall be subject to continual competency evaluations in each category at any time by the program officials.
8. Senior students are directed to have all ICEs completed within the first 8 months of senior year. All ICEs and CCEs must be completed before advancing to Terminal Competencies.
9. If a student attempts a simulated competency evaluation and is unsuccessful in obtaining a passing grade, the following steps should be followed:
 - a. The instructor will review the evaluation form with the student.
 - b. The instructor will highlight the student's area of weakness as well as praising the student's strength.
 - c. The instructor will share the competency-based flow chart with the student. This flow chart will help the student recognize what steps can be taken to improve their performance skills.

- d. If the student, then passes the category re-test they may then continue to the next step. If the student fails, the category re-test their status as a student will be **terminated**.
- e. The instructor will demonstrate to the student the clinical skills necessary to obtain the competency under simulated conditions.
- f. The student will then proceed to the actual evaluation portion. This competency cannot be done with a clinical instructor. All remedial competencies must be performed only under the supervision of program faculty only.
- g. The time frame for the completion of this remedial plan will be a one-month period

GUIDELINES FOR CONTINUAL COMPETENCY EVALUATIONS

1. All continual competencies must be performed on patients of a progressive difficulty level. Levels of difficulty are as follows: 1. Ambulatory adult, 2. Geriatric or non-ambulatory 3. Pediatric 4. Trauma
2. No continual evaluation may be done for a radiographic examination until the student has completed an ICE for that specific procedure.
3. Only clinical instructors and program faculty can evaluate students for continual competencies.
4. During junior year students must obtain a minimum of two continual competencies. During senior year students must complete three more continual competencies for a total of five CCEs in the two year period.
5. If the student does not successfully pass the continual evaluation, the following steps will be followed:
 - a. The student will be considered incompetent for that radiographic exam and the student's indirect supervision status for that radiographic procedure will be removed.
 - b. The instructor will highlight the strengths and weaknesses of the student's performance and will advise the student how to improve them.
 - c. The instructor will share the competency-based flow chart with the student. This flow chart will help the student recognize what steps can be taken to improve their performance skills.
 - d. If the student then passes a category re-test they may then continue to the next step. If the student fails a category re-test their status as a student will be **terminated**.
 - e. After reviewing the didactic material, practicing and simulating the exam, the student must demonstrate to the instructor that competency is achieved under simulated conditions.
 - f. The student will then follow the prescribed rules for an ICE (i.e. 2 exams will be performed under Direct supervision of a technologist and then the student will ask for an ICE with program faculty, followed by a continual competency evaluation, also done only with program faculty.
 - g. The time frame for the completion of this remedial plan will be a one month period.

GUIDELINES FOR TERMINAL COMPETENCIES

1. Terminal Competencies are to be completed within the last 2 months of the program and can only be performed by clinical instructors or program faculty.
2. 5 Terminal Competencies are to be completed with the patient selection including a wide variety of patient types. The selection of examinations shall be based upon a progressive level of difficulty.
3. TCEs shall only be performed on “**live**” patients and **shall not** be performed under simulated conditions.
4. A terminal competency evaluation form will be used.
5. If a student attempts a TCE and is unsuccessful in obtaining a passing grade, the following steps will be followed:
 - a. The student will be considered incompetent for that radiographic exam and the student’s indirect supervision status for that radiographic procedure will be removed.
 - b. The instructor will highlight the strengths and weaknesses of the student’s performance and will advise the student how to improve them.
 - c. If the student, then passes the category re-test they may then continue to the next step. If the student fails, the category re-test their status as a student will be **terminated**.
 - d. After reviewing the didactic material, practicing, and simulating the exam, the student must demonstrate to the instructor that competency is achieved under simulated conditions.
 - e. The student will then follow the prescribed rules for an ICE (i.e. 1 exam will be performed under Direct supervision of a technologist and then the student will ask for an ICE with program faculty, followed by a continual competency evaluation, also done only with program faculty.
 - f. After passing the ICE, the student will have their indirect supervision status restored.
 - g. The student will then proceed to the TCE. This TCE cannot be done with a clinical instructor. The examination must be performed with program faculty for the demonstration of competency.
 - h. The time frame for the completion of this remedial plan will be a two-week period.

REMEDIATIONS

Remediation is an essential part of the Competency Based Clinical Education. Remediation procedures are incorporated into the guidelines for the four types of clinical competency failures.

FAILURE PROCEDURES

FAILURE TO DEMONSTRATE DIDACTIC & LABORATORY PROFICIENCY

If a student does not pass the didactic portion of Radiographic Procedures the failure will count toward the test failure limit. The student will be required to retake the examination and obtain a passing grade of 77%. If the student fails the re-test, they will be **terminated** from the program.

FAILURE OF DIDACTIC TESTING FOR POSITIONING CLASS:

1. The instructor will review the didactic information with the student.
2. The instructor will highlight the student's area of weakness as well as praising the student's strengths.
3. Another test will be administered to the student in which understanding of the material must be demonstrated with a passing grade for the re-test. Re-test grades are calculated by combining the initial test at two thirds value and the re-test at one third value.
4. If the student fails, the category re-test their status as a student will be **terminated**.
5. The time frame for the re-testing will be one week.

FAILURE OF A LABORATORY PROFICIENCY:

1. The instructor will review the evaluation form with the student.
2. The instructor will highlight the student's area of weakness as well as praising the student's strengths.
3. The instructor will share the competency-based flow chart with the student. This flow chart will help the student recognize what steps can be taken to improve their performance skills.
4. The instructor will demonstrate to the student the clinical skills necessary to obtain competency in this laboratory testing under simulated conditions.
5. New laboratory testing will be done in which the student must obtain a passing grade.
6. The time frame for the demonstration of proficiency will be one week.

FAILURE OF INITIAL or SIMULATED CLINICAL COMPETENCY EVALUATION

If a student attempts an ICE or SCE and is unsuccessful in obtaining a passing grade, the following steps should be followed:

1. The instructor will review the evaluation form with the student.
2. The instructor will highlight the student's area of weakness as well as praising the student's strengths.
3. The instructor will share the competency-based flow chart with the student, available in the program faculty's offices. This flow chart will help the student recognize what steps can be taken to improve their performance skills.
4. If the student, then passes the category re-test they may then continue to the next step. If the student fails, the category re-test their status as a student will be **terminated**.

5. The instructor will demonstrate to the student the clinical skills necessary to obtain competency in this ICE under simulated conditions.
6. The student will then demonstrate to the instructor that competency is achieved under simulated conditions.
7. The student will then proceed to the actual evaluation portion. This ICE or SCE must be done by program faculty only.
8. The time frame for the completion of this remedial plan will be a month period.

FAILURE OF A CONTINUAL COMPETENCY EVALUATION

If the student does not successfully pass the continual evaluation, the following steps will be followed:

1. The student will be considered incompetent for that radiographic exam and the student's indirect supervision status for that radiographic procedure will be removed.
2. The instructor will highlight the strengths and weaknesses of the student's performance and will advise the student how to improve them.
3. The instructor will share the competency-based flow chart with the student. This flow chart will help the student recognize what steps can be taken to improve their performance skills.
4. If the student, then passes a category re-test they may then continue to the next step. If the student fails a category re-test their status as a student will be **terminated**.
5. After reviewing the didactic material, practicing, and simulating the exam, the student must demonstrate to the instructor that competency is achieved under simulated conditions.
6. The student will then follow the prescribed rules for an ICE (i.e. 1-2 exams will be performed under Direct supervision of a technologist and then the student will ask for an ICE with program faculty, followed by a continual competency evaluation, also done only with program faculty.
7. The time frame for the completion of this remedial plan will be a one-month period.

FAILURE OF TERMINAL CLINICAL COMPETENCY EVALUATION

1. If a student attempts a TCE and is unsuccessful in obtaining a passing grade, the following steps will be followed:
 - a. The student will be considered incompetent for that radiographic exam and the student's indirect supervision status for that radiographic procedure will be removed.
 - b. The instructor will highlight the strengths and weaknesses of the student's performance and will advise the student how to improve them.
 - c. If the student, then passes the category re-test they may then continue to the next step. If the student fails, the category re-test their status as a student will be **terminated**.
 - d. After reviewing the didactic material, practicing, and simulating the exam, the student must demonstrate to the instructor that competency is achieved under simulated conditions.

- e. The student will then follow the prescribed rules for an ICE (i.e. 1 exam will be performed under Direct supervision of a technologist and then the student will ask for an ICE with program faculty, followed by a continual competency evaluation, also done only with program faculty.
- f. The student will then proceed to the TCE. This TCE cannot be done with a clinical instructor. The examination must be performed with program faculty for the demonstration of competency.
- g. The time frame for the completion of this remedial plan will be a two-week period

DESCRIPTION OF CLINICAL EDUCATION

Englewood Hospital and Medical Center's School of Radiography maintains a system for competency based clinical education. This system allows for students who successfully complete our program to perform radiographic examinations according to accepted professional standards.

The program is structured so that didactic and clinical programs closely correspond. Clinical education as well as the didactic portion is part of the program's Master Plan. It is a planned and structured educational process. The basis for the clinical education begins in the classroom. In Radiographic Procedures, the student learns the theory necessary to assure a meaningful clinical participation. In Image Production & Evaluation, the student learns to identify acceptable and unacceptable radiographs. In Anatomy and Physiology, the student learns to identify the anatomical areas demonstrated in radiographs. The students also begin their didactic training with courses in Radiation Protection and Medical Ethics. These courses compliment the clinical exposure of the students to practical application making the students more knowledgeable and aware of hospital procedures.

Englewood Hospital and Medical Center's Radiology Department offers the radiography student a sufficient quantity and variety of radiographic examinations to achieve clinical competency. Englewood also offers the student some of the latest equipment exposing them to the newest modalities in radiography. Our department prides itself in that it is a modern and always expanding department and will continually update itself.

The clinical participation in the Radiology Department is an essential part of the student's clinical experience. The overall objectives for the clinical education are based on ethical and professional standards. Students are given these objectives during orientation and each one is explained in order to meet our appointed goals. (See Student Objectives page: 64-75)

The technical staff and radiologists are helpful and supportive to the clinical experience of the student. To fully evaluate the student, the members of the staff evaluate students on a bi-weekly basis for the first three months of the program. The student is evaluated in such areas as attitude, dependability, technique, positioning skills and knowledge of radiographic equipment. (See Evaluation sheets pages: 50-56).

Student radiographers are placed into a clinical education rotation of the various areas. Their participation moves from a passive mode of observation to that of the student reaching clinical competency in final rotations. Senior students rotate every week giving them a constant variety of examinations. Junior student rotates every two weeks for the first quarter and then every week for the remaining time in the program. A one-week rotation is utilized to compliment the didactic schedule of the school.

The senior students have elective rotations in Radiation Therapy, MRI, Nuclear Medicine/Nuclear Cardiology, Ultrasound, mammography, and PET scan.

Students have adequate and proper supervision during all clinical assignments, which include direct supervision for the entirety of junior year and indirect supervision for senior year, provided they have completed requisite ICEs.

Our students attend school during the hours of 8 AM to 4 PM, Monday through Friday. Junior and senior students have class and clinical on opposing halves of the same days; whereas junior students may occupy the clinical area in the AM senior students would then occupy the clinical area in the PM. This schedule keeps to the N.J. Board's Standards and ensures that the program does not exceed the limit of student occupancy.

As part of the student designated uniform, student embroidery must be worn in a place that is easily seen. OSLDs must always be worn while in the hospital. It is recommended that OSLDs be worn as per the recommendation of the manufacturer. If an OSLD is lost it must be immediately reported to program faculty and the student may not return to the clinical area until a replacement is issued. Hospital ID cards must always be visibly worn at the neck area. If a hospital ID is lost the student may be charged a replacement fee. Every student must also have a writing instrument and a time piece to meet the requirements of proper attire.

For a student to become eligible for graduation they must complete all clinical competencies (ICEs, CCEs & TCEs) and meet all graduation requirements as stated in the handbook.

CLINICAL GRADING

Clinical grades will be given to students every semester. These grades are an average of the Affective Domains (3 Month Evaluation) and the clinical competency average for the current semester.

Clinical grades may be lowered by non-compliance. **Every** non-compliance write-up will result in a reduction of the clinical grade by 1 point. The grading system is as follows.

3.0 = 100
2.9 – 2.99 = 97
2.7 – 2.89 = 95
2.5 – 2.69 = 92
2.3 – 2.49 = 90
2.1 – 2.29 = 87
2.0 – 2.19 = 85
1.99 Or below = Failure

CLINICAL BONUS POINTS

A student may earn bonus points toward their clinical grade for the following.

Remaining sick time - For any unused sick days at the end of an academic year will, the student may earn .25 points towards his/her clinical grade.

CLINICAL TERMINATION

A student may be terminated from the program for any of the following reasons:

1. Achieving a failing clinical grade for the semester.
2. Failure of three (3) laboratory proficiency evaluations.
3. Failure of two (2) initial (including simulated) or continuing clinical competency evaluations.
4. Five documented technologists' evaluations indicating a student's inability to perform in a clinically competent and professional manner.
5. If a patient's safety has been jeopardized due to student's clinical incompetence and/or negligence.
6. Failure of the student to complete remediation within the appropriate time frames.
7. Failure of the student to adhere to the HIPAA guidelines.
8. Three failing Overall Student Evaluations (Affective Domains).



ENGLEWOOD
HOSPITAL AND MEDICAL CENTER
School of Radiography

NON-COMPLIANCE FORM

NAME OF STUDENT: _____ DATE PREPARED: _____
DATE OF VIOLATION: _____

AREAS OF VIOLATION:

ABSENTEEISM () ATTITUDE () ACADEMIC () CLINICAL ()
LATENESS () CONDUCT () INSUBORDINATION ()

DISCIPLINARY ACTION TAKEN:

***STUDENTS WILL BE SENT HOME FOR THE FOLLOWING**

INFRACTIONS; No Positioning Book, No ID/OSLD/Image Markers, Being out of uniform.

WARNING () FINAL WARNING () OTHER ()

SUSPENSION ().....NUMBER OF DAYS: _____ DATE OF RETURN _____

TERMINATION ().....EFFECTIVE DATE: _____

DETAILS OF VIOLATION: _____

RECOMMENDATION/COMMENTS OF FACULTY: _____

SIGNATURE OF FACULTY MEMBER: _____ **DATE:** _____

STATEMENT OF STUDENT: _____

***Your signature below merely indicates that you have read this document. It does not mean that you agree or disagree with the contents.**

SIGNATURE OF STUDENT: _____ **DATE:** _____

* Receiving this form will result in a reduction of clinical grade by 1 point if received for a clinical violation.



ENGLEWOOD
HOSPITAL AND MEDICAL CENTER
School of Radiography

COMPETENCY EVALUATION FORM

Student _____ Signature _____

Evaluator _____ Signature _____

Examination _____ View(s) _____ Date _____

COMPETENCY TYPE Initial ____ Continual ____ Simulated ____ Terminal ____

Continual Competency Patient Difficulty Level: 1. ____ Ambulatory, 2. ____ Geriatric/Non-ambulatory,
3. ____ Pediatric 4. ____ Trauma

Automatic Failure

- _____ Student selected the wrong patient
- _____ Student attempted exam of wrong side or body part
- _____ Student did not shield
- _____ Student's actions placed the patient in jeopardy
- _____ Student's action facilitated the need for a repeat radiograph

Performance Evaluation Criteria

0 = Unacceptable: Student did not perform this skill or required instruction and supervision to perform and/or performance did not conform to standard procedures/departmental protocol; unsatisfactory.

1 = Improvement Needed. Student performed some parts of the skill satisfactorily but requires supervision and assistance; considerable improvement needed.

2 = Acceptable: Student performed this skill without assistance; requires minimal improvement.

3 = Superior: Student performed this skill with adept proficiency, speed & quality; and/or demonstrated the initiative and ability to adapt to problem situations; requires no further improvement.

Grading System

The student must get a minimum of 2.0 in each area, performance evaluation and image evaluation.

The grade equivalency is as follows:

3.0 =	100
2.9-2.99 =	97
2.7-2.89 =	95
2.5-2.69 =	92
2.3-2.49 =	90
2.1-2.29 =	87
2 -2.09 =	85

A grade lower than 85% is a failure

PERFORMANCE EVALUATION

Facility Preparation

The Student:

1. Examines the radiographic/fluoroscopic room and cleans it before and after the exam.	0 1 2 3	X	1	
2. Has all equipment and supplies ready before escorting the patient to the room.	0 1 2 3	X	1	
3. Is able to manipulate all radiographic/fluoroscopic equipment competently.	0 1 2 3	X	1	
4. Centers the central ray to the image receptor for all projections.	0 1 2 3	X	2	
5. Adjusts the tube to the proper SID (source to image distance) for each projection.	0 1 2 3	X	2	
6. Selects image receptor of the appropriate size for all projections.	0 1 2 3	X	1	
7. Sets the proper technique and makes adjustments as necessary.	0 1 2 3	X	1	

Patient Preparation

The Student:

1. Identifies the correct patient and examination according to the requisition.	0 1 2 3	X	1	
2. Establish a rapport with patient and explain the procedure.	0 1 2 3	X	2	
3. Obtains and documents an accurate patient history.	0 1 2 3	X	1	
4. Ascertain the pregnancy status of female patients.	0 1 2 3	X	2	
5. Properly prepare patient for exam. Gown, jewelry, snaps, zippers etc.	0 1 2 3	X	2	
6. Respects and maintains the patient's dignity & modesty throughout the exam.	0 1 2 3	X	2	
7. Follows radiation protection protocols, supplies the patient with lead shielding.	0 1 2 3	X	2	
8. Supplies the correct breathing instructions to the patient.	0 1 2 3	X	2	
9. Provides proper assistance in moving the patient based on their physical condition, while using proper body mechanics.	0 1 2 3	X	2	

Patient Positioning

The Student:

1. Positions patient without rotation or angulation of the part.	0 1 2 3	X	2	
2. Places the image receptor appropriately portrait/landscape based on patient anatomy.	0 1 2 3	X	1	
3. Central ray directed with proper degree of angulation.	0 1 2 3	X	2	
4. Positions the patient so that the desired anatomy is centered to IR	0 1 2 3	X	2	
5. Follows the required protocol for the examination	0 1 2 3	X	2	
6. Assesses the need for alternative positions based on patient's condition	0 1 2 3	X	1	
7. Properly uses beam restriction devices and/or collimates	0 1 2 3	X	2	

Professionalism

The Student:

1. Will interact effectively and respectfully with other healthcare professionals	0 1 2 3	X	2	
2. Provides lead shielding for other medical personnel if needed	0 1 2 3	X	2	
3. Effectively warns other healthcare professionals of radiation exposure	0 1 2 3	X	2	
4. Employs the use of radiation with consideration of surrounding personnel	0 1 2 3	X	2	

Image Identification & Digital Radiography Fluency

The Image:

1. Shows right/left markers in appropriate area of the image.	0 1 2 3	X	2	
2. Selects the correct patient from the RIS or enters the correct patient into RIS	0 1 2 3	X	2	
3. Compiles radiographs, completes case in PACS and/or releases Images appropriately.	0 1 2 3	X	2	

IMAGE EVALUATION

RADIOGRAPHIC ANATOMY: Evaluation of obliquity, rotation, extension, and effects of Central Ray angulation as seen on the radiograph.

	VIEWS									
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Exact positioning and angulation: No Improvement needed.	3	3	3	3	3	3	3	3	3	3
Minor inaccuracy of position/projection or angulation. Acceptable image of radiographic anatomy.	2	2	2	2	2	2	2	2	2	2
Major error in position/projection or angulation. Marginally acceptable image of radiographic anatomy.	1	1	1	1	1	1	1	1	1	1
Gross error in position/projection or angulation and/or wrong position and/or motion blur. Unacceptable.	0	0	0	0	0	0	0	0	0	0

ALIGNMENT: Evaluation of the approximation of the image receptor center, part center, and central ray; image receptor orientation.

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Less than 1" misalignment of image receptor, part, or central ray.	3	3	3	3	3	3	3	3	3	3
1" to 2" misalignment of image receptor, part or central ray.	2	2	2	2	2	2	2	2	2	2
More than 2" misalignment of image receptor, part, or central ray; all required anatomy seen.	1	1	1	1	1	1	1	1	1	1
More than 2" misalignment of image receptor, part, and central ray; and or some required anatomy not seen; and/or image receptor orientation incorrect.	0	0	0	0	0	0	0	0	0	0

COLLIMATION/SHIELDING: Evaluation of appropriate field size/shape, and presence of appropriately placed gonadal shielding

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Beam limited to area of interest; all borders seen with proper segmentation. Gonadal shielding, if seen, is correctly placed.	3	3	3	3	3	3	3	3	3	3
Two or three borders seen with slight error in segmentation; gonadal shielding, if seen, is correctly placed.	2	2	2	2	2	2	2	2	2	2
One border only seen with a major error in segmentation; gonadal shielding, if seen, is correctly placed.	1	1	1	1	1	1	1	1	1	1
No collimation seen with a gross error in segmentation, and/or shielding incorrectly placed; or over – collimation obscured area of interest.	0	0	0	0	0	0	0	0	0	0

Technical Factors: Evaluation of Exposure Index, Mottle and visibility of detail.

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Optimal Exposure Index and penetration; all areas of interest well visualized.	3	3	3	3	3	3	3	3	3	3
Exposure Index & penetration slightly above or below optimal levels (Yellow); minor error in selection of technical factors.	2	2	2	2	2	2	2	2	2	2
Exposure Index & penetration greatly above or below optimal levels (Red); major error in selection of technical factors.	1	1	1	1	1	1	1	1	1	1
Exposure Index grossly above or below optimal levels (Red); gross error in selection of technical factors. Image visibility compromised.	0	0	0	0	0	0	0	0	0	0

TOTAL POINTS

POINTS SUBTRACTED:

3 points for each wrong/missing marker or ID
1 point for each illegible R/L marker or ID

--	--	--	--	--	--	--	--	--	--

NET POINTS

--	--	--	--	--	--	--	--	--	--

TOTAL SECTIONS MARKED

--	--	--	--	--	--	--	--	--	--

.....
IMAGE SCORE:

SUM OF NET POINTS

SUM OF SECTIONS

=

--

COMMENTS: _____

TERMINAL COMPETENCIES

Terminal competencies must be completed within the last 2 months of school after a student has passed and completed all Initial & Continual Clinical Competencies.

Five Terminal Competencies must be completed by the student. The program officials will determine what procedures the senior student will use for terminal competencies. No simulations are to be utilized. The instructor will use the Terminal Competency Evaluation Form.

Students must obtain a passing grade in all TCEs.

The graduate shall be able to:

1. Provide basic patient care and comfort and anticipate patient needs.
2. Provide appropriate patient education.
3. Practice radiation protection
4. Understand basic x-ray production and interactions.
5. Operate medical imaging equipment and accessory devices.
6. Position the patient and medical imaging system to perform examinations and procedures.
7. Exercise independent judgment and discretion in the technical performance of medical imaging procedures.
8. Demonstrate knowledge of human structure, function, and pathology.
9. Evaluate the performance of medical imaging systems.
10. Evaluate the medical images for technical quality.
11. Demonstrate knowledge and skills relating to medical image processing.
12. Understand the safe limits of equipment operation.
13. Recognize equipment malfunctions and report them to the proper authority.
14. Demonstrate knowledge and skills relating to verbal, nonverbal and written medical communication in patient care intervention and professional relationships.
15. Support the professions code of ethics and comply with the profession's scope of practice.
16. Competently perform a full range of radiologic procedures.

CHECKLIST OF TERMINAL COMPETENCIES

Name _____

Year _____

Procedure	Type of Study	Date
UPPER EXTREMITY	_____	_____
LOWER EXTREMITY	_____	_____
SPINE	_____	_____
PORTABLE STUDY	_____	_____
THORAX	_____	_____

REQUIREMENTS FOR ALL CLINICAL COMPETENCY EVALUATIONS

Applicable to all Clinical Competencies Performance Evaluations:

Prerequisites:

1. Didactic instruction with a minimum passing grade of 77% on written test.
2. Laboratory instruction with demonstrations by the instructor.
3. Laboratory Proficiency evaluation in which student receives a passing grade.
4. Satisfactory performance of two examinations during JUNIOR year and one examination during SENIOR year under DIRECT supervision of a staff technologist.

** If a written positioning test is failed, the student will be required to pass a retake of this test to perform clinical competency evaluations. Even if the student passes the re-test it will still count as a test failure.

**The program stresses that competencies will be performed on actual patients as often as possible to enhance the clinical skill of the student and that simulated procedures should only be used as an alternative when absolutely necessary.

Evaluation Criteria:

The student must meet the following performance criteria:

Evaluate the requisition:

The student radiographer will:

1. Identify the procedure to be done.
2. Identify and document patient history
3. Identify patient's name and age and medical record number
4. Identify proper mode of travel

Complete patient preparation:

The student radiographer will:

1. Select the correct patient
 - a. Identify patient by ID bracelet
 - b. Confirm identification by name, date of birth & medical record number
2. Introduce themselves to the patient
3. Explain the procedure to the patient
4. Ask female patients **Last Menstrual Period (LMP)**
5. Take appropriate precautions if pregnancy is confirmed
6. Have patient properly gowned
7. Keep patient draped for modesty
8. Assist patient to radiographic table or upright unit
9. Talk with patient in a concerned and professional manner

Prepare the radiographic room:

The student radiographer will:

1. Prepare a neat, clean, and stocked radiographic room
2. Have appropriate image receptor available
3. Have contrast media ready (if applicable)
4. Have emergency supplies available (emesis basin, etc.)
5. Have radiographic equipment and x-ray tube in place

Select the appropriate image receptor for examination:

The student radiographer will:

1. Select proper image receptor size
2. Select proper type of image receptor (grid or regular)
3. Place the image receptor properly in the image receptor holder or bucky

Position the patient in the correct position:

The student radiographer will:

1. Position the part in correct relation to the image receptor
2. Utilize proper radiographic body landmarks

Center the tube to the part:

The student radiographer will:

1. Utilize the correct centering point
2. Employ the correct projection for optimum images

Center the part to the image receptor:

The student radiographer will:

1. Utilize the correct radiographic body landmarks to the center the image receptor
2. Ensure that placement of the part is centered to the image receptor
3. Ensure that the patient is in the proper position.

Center the tube to the image receptor:

The student radiographer will:

1. Manipulate the tube safely and efficiently
2. Utilize proper angulation
3. Utilize proper SID
4. Ensure the central ray is centered to the image receptor

Collimate no larger than image receptor size:

The student radiographer will:

1. Utilize beam restriction
2. Collimate no larger than image receptor size
3. Show evidence of collimation on finished radiographs

Apply shielding:

The student radiographer will:

1. Apply lead shielding for the patient's protection
2. Select appropriate technical factor for lowest dose
3. Wear personnel radiation monitoring devices
4. Use protective shielding on themselves when required; including, but not limited to mobile and fluoroscopic studies.

Utilize the correct marker(s):

The student radiographer will:

1. Utilize lead markers (left or right) to indicate the side of patient
2. Utilize other lead markers properly, when necessary
3. Utilize marker so they will not interfere with the anatomy to be demonstrated

Select proper technical factors:

The student radiographer will:

1. Choose the proper focal spot size
2. Choose the optimal combinations of MA and time based on patient condition and size
3. Select optimal KVP
4. Employ the use of a technique chart when selecting technical factors by measuring the patient and adjusting those factors according to variable characteristics of the patient such as pathology
5. AEC- Select proper photocells, density setting, kVp & back-up time

Utilize positioning aids:

The student radiographer will:

1. Employ positioning aids when needed
2. Employ proper immobilization techniques

Give clear and concise directions to the patient:

The student radiographer will:

1. Maintain professional relationship with the patient
2. Give proper moving instructions and assistance
3. Inform the patient of breathing instructions before taking exposure
4. Utilize proper breathing technique for examination
5. Observe patient while taking exposure

Release the patient according to departmental procedure:

The student radiographer will:

1. Return the patient to designated area
2. Ensure that the patient is gowned or otherwise covered
3. Complete the patient's exam in the EMR & PACS systems
4. Ensure the stat/urgent reading images are read by radiologist and the findings are called to the appropriate person

Requires assistance to complete the exam:

See immediate failure

Image evaluation

Patient position:

The student radiographer will:

1. Identify the position of the patient in each image

Identification of Projections:

The student radiographer will:

1. Outline routine views
2. Describe if images are properly positioned
3. Identify positioning body landmarks
4. Identify any radiographic evidence of proper positioning
5. Describe any devices used (immobilization/positioning aids)

Identification of anatomy:

The student radiographer will:

1. Identify gross anatomy
2. Outline anatomy present and missing
3. Identify any anatomical anomalies on radiograph

Collimation:

The student radiographer will:

1. Identify if image receptor size used is adequate
2. Demonstrate sufficient collimation
3. Use gonadal shielding

Proper image identification visible:

The student radiographer will:

1. Locate "R" or "L" markers, in correct location
2. Selects the correct patient from the RIS or enters the correct patient into RIS

Technique:

The student radiographer will:

1. Decide if receptor exposure is adequate
2. Decide if contrast is adequate
3. Decide if resolution is adequate
4. Identify distortion or magnification
5. Identify any areas of unwanted receptor exposure
6. Discuss grids, grid cutoff, off centering and techniques
7. Discuss if image is diagnostic
8. Discuss if image is of poor/high quality
9. Discuss exposure factors and how they could affect image (i.e. age, disease, contrast media, casting material or prosthesis)
10. Discuss if an image has artifacts

Immediate Failure of a Competency

It is the responsibility of the evaluator to immediately stop an evaluation and step in to complete the examination if any one of the following situations is observed:

Reasons for immediate failure:

1. Endangering the welfare or safety of the patient
2. Improper use of radiographic equipment
3. Proper radiation protection not provided for the patient
4. Did not perform required routine
5. Did not set appropriate technique
6. Evaluator's judgment of incompetence of the student's behavior or ability
7. Student's actions facilitated the need for a repeat radiograph

Assistance may be given to the student at the student's request. However, the student must stay in control of the examination and assistance should be non-technical. It will be the evaluator's judgment if the assistance resulted in competency on the student's performance.

Clinical Progressive Objectives

Englewood Hospital & Medical Center School of Radiography follows a competency based system of clinical education. The imaging studies start with basic skills and progress as the student gains experience through time spent in the clinical rotations. The clinical objectives below are designed to train the students in a progressive fashion.

Students are expected to continue to achieve and master all objectives as they progress through the program. Objectives listed in the beginning stages of the program should be continuously refined as the student begins to learn additional objectives. Please note that stated objectives should never limit your achievement potential.

Radiography Clinical I (Junior Year)

After completion of the first semester of clinical education, the student must be able to:

- Obtain a medical history from a patient relevant to the procedure being performed.
- Begin to implement critical thinking strategies on basic level clinical cases.
- Utilize the EMR [Epic], PACS systems of the clinical site's computer network.
- Observe the physical and mental needs of their patients and convey these needs to their immediate clinical supervisor.
- Formulate, for their clinical education provider, basic answerable questions germane to their clinical experience.
- Communicate effectively with patients and other members of the health care team.
- Begin to develop a sense of cultural sensitivity by being considerate of the culture, beliefs, values, and opinions of their patients.
- Develop a practical manner of explaining radiographic procedures to their patients.
- Operate the control console, tube, upright and table Bucky effectively.
- Identify the proper mA, kVp, focal spot size, and SID to make exposures that will yield an image with optimal quality.
- Demonstrate compassion and empathy for patient's condition.
- Perform chest, abdomen, mobile, trauma, pediatric and fluoroscopic studies under direct supervision and complete competencies for these exams.
- Adhere to Code of Ethics for Radiologic Technologists.
- Apply the cardinal principles of radiation protection; time, distance and shielding.
- Apply the principles of ALARA to their daily practice.
- **Perform five clinical competencies** (July to December)

Radiography Clinical II (Junior Year)

After completion of the second semester of clinical education, the student must be able to:

- Obtain a medical history from a patient relevant to their procedure being performed.
- Utilize the EMR [Epic], PACS systems of the clinical site's computer network.
- Implement critical thinking strategies on basic and intermediate level clinical cases.
- Observe the physical and mental needs of their patients and endeavor to satisfy these needs while also conveying these needs to their immediate clinical supervisor.

- Formulate, for their clinical education provider, basic answerable questions germane to their clinical experience.
- Communicate effectively with patients and other members of the health care team.
- Perform two of the five required continual competency evaluations.
- Develop a deeper sense of cultural sensitivity by showing respect, consideration, kindness and courtesy for the culture, beliefs, values, and opinions of their patients.
- Develop a practical manner of explaining radiographic procedures to their patients.
- Operate the control console, tube, upright and table Bucky effectively.
- Identify the proper mA, kVp, focal spot size, and SID to make exposures that will yield an image with optimal quality.
- Select a technique that complies with ALARA for digital and analog imaging systems.
- Adhere to Code of Ethics for Radiologic Technologists.
- Perform spine, pelvis, upper femora, lower & upper extremity, and bony thorax procedures under direct supervision and complete competencies for these exams.
- Apply the cardinal principles of radiation protection; time, distance and shielding.
- Apply the principles of ALARA to their daily practice.
- **Perform twelve clinical competencies.** (For a total of 17—January to June)

Radiography Clinical III (Senior Year)

After completion of the third semester of clinical education, the student must be more confident with the following

Objectives:

- Obtain a medical history from a patient relevant to their procedure being performed.
- Utilize the EMR [Epic], PACS systems of the clinical site's computer network.
- Implement critical thinking strategies on a variety of clinical cases.
- Respond to the physical and mental needs of their patients and convey these needs to their immediate clinical supervisor.
- Formulate, for their clinical education provider, basic answerable questions germane to their clinical experience.
- Communicate effectively with patients and other members of the health care team.
- Practice a sense of cultural sensitivity by showing respect, consideration, kindness and courtesy for the culture, beliefs, values, and opinions of their patients.
- Develop a practical manner of explaining radiographic procedures to their patients.
- Perform all previously learned competencies under indirect supervision.
- Perform skull, long bone measurement, and surgical exams and complete competencies for these examinations.
- Perform three of the five required continual competencies.
- Identify the exposure factors that will yield an image with optimal quality and maintain congruency with the principles of ALARA for both digital and analog systems.
- Operate the control console, tube, upright and table Bucky effectively.
- Adhere to Code of Ethics for Radiologic Technologists.

- Apply the cardinal principles of radiation protection; time, distance and shielding.
- Apply the principles of ALARA to their daily practice.
- **Perform sixteen clinical competencies.** (For a total of 33 – July to December)

Radiography Clinical IV (Senior Year)

After completion of the fourth semester of clinical education, the student will have mastered the following objectives:

- Obtain a detailed and accurate medical history from a patient relevant to their procedure being performed.
- With indirect supervision, function on an independent basis.
- Utilize the EMR [Epic], PACS systems of the clinical site's computer network.
- Apply critical thinking strategies to all clinical cases.
- Respond and meet the patients' needs physically and mentally and convey these needs to their clinical supervisor.
- Formulate, for their clinical education provider, logical, relative, answerable questions germane to their clinical experience.
- Communicate effectively with patients and other members of the health care team
- Practice an expanded sense of cultural sensitivity and show respect for the culture, beliefs, values, and opinions of their patients by helping to preserve the dignity of others in their beliefs.
- Develop a practical manner of explaining radiographic procedures to their patients.
- Perform all previously learned radiographic procedures competently with indirect supervision and complete competencies for these exams.
- Utilize the proper mA, kVp, focal spot size, and SID to make exposures that will yield an image with optimal quality.
- Routinely operate the control console, tube, upright and table Bucky effectively.
- Adhere to Code of Ethics for Radiologic Technologists.
- Apply the cardinal principles of radiation protection; time, distance and shielding.
- Apply the principles of ALARA to their daily practice.
- Perform skull studies and trauma radiography and complete competencies for these exams.
- Complete any remaining number of initial mandatory or elective competencies required to meet the requisite amount of mandatory and elective competencies as laid out by NJ DEP RTBE.
- **Perform thirteen clinical competencies.** (For a total of 47 – January to June)
- **Perform all five of the required terminal competencies in last 2 months of program**
- **Complete any of the other remaining 37 mandatory – 15 Elective – 5 Continual Competencies**

STUDENT CLINICAL OBJECTIVES by ROTATION

In addition to the Clinical Progressive Objectives listed in the previous section, there are specific rotation assignment objectives that all students must follow as well. Students will refer to these objectives to understand what is expected of them. These objectives and the direction of clinical staff should be adhered to for the student to gain the most from each rotation.

Radiographic & Fluoroscopic Room Objectives

The students shall familiarize themselves and gain competence by utilizing objectives for all radiographic, fluoroscopic & mobile room rotations. These clinical room objectives are to be utilized for all EHMC program clinical sites. As per the standards of the JRCERT, proper supervision must be maintained for each student's level of training.

Equipment & Environment

- **Radiographic & Fluoroscopic Room Objectives**
 1. Identify and properly manipulate all radiographic & fluoroscopic equipment.
 2. Know the function of the radiographic equipment.
 3. Demonstrate standard precautions and maintain a clean and safe procedure room.
 4. Locate and stock accessory equipment and supplies.
 5. Check the expiration date of all room supplies, if expired replace or inform the lead technologist.
- **Exam Prep**
 1. Determine exam requested and obtain patient history and consent as needed.
 2. Locate all equipment and supplies necessary for procedure.
 3. Set-up the room utilizing proper aseptic or sterile technique as needed.
 4. Know proper contrast and administration route needed for procedure.

Patient Care

- **Standard Precautions**
 1. Utilize standard precautions for all patient contact.
 2. Know the medical center's standard procedure for cleanup and disposal of body fluids.
- **Communication**
 1. Identify correct patient before starting procedure.
 2. Introduce yourself and others involved with procedure to the patient.
 3. Obtain patient history and consent, as needed.
 4. Explain and answer questions involving the procedure to the patient.
 5. Provide clear instructions to the patient for proper breathing and positioning protocols.
 6. Advise the necessary personnel of the patient history and procedure.
 7. Communicate all relevant information to the supervising technologist.
- **Observation/Evaluation**
 1. Observe and evaluate patient's condition throughout course of exam.
 2. Observe patient's accessory equipment such as oxygen, I.V. lines, catheters, etc., to ensure stability of the patient.
 3. Preserve the modesty of the patient.

Assistance

Aid the patient before, during and after the procedure. This will include:

- Give direction to the patient as to the proper manner of gowning.
- Assisting the patient in radiographic positions during the procedure.
- Assisting the patient with immobilization devices.
- Assisting other medical personnel in the care of the patient.

Radiation Protection

Ensure proper radiation protection by utilizing:

- Lead shielding.
- Collimation.
- Radiation protective devices.

Procedures

Positioning

- Determine correct sequence of positions.
- Correctly position the patient for each projection.
- Utilize correct breathing instructions for each projection.
- Proper placement of image receptor.
- Determine proper tube-IR alignment.
- Collimate appropriately for all images.

Technical factors

- Measure the patient with calipers and refer to the posted technique charts for each exam.
- Select correct exposure factors prior to positioning.
- Determine proper image receptor size.
- Determine correct image receptor/grid combination.
- Recognize patient conditions or circumstances that may alter technical factors.
- Determine appropriate S.I.D.

Equipment manipulation

- Recognize appropriate control panel features, such as, buttons switches, dials meters & read-outs.
- Recognize all accessory equipment outlined for each radiographic room (i.e. compression bands, shoulder harness, apertures, sponges, etc.).
- Understand how to properly operate radiographic room equipment lock/detent features.
- Proper placement of radiographic markers.
- Properly utilize transfer equipment (i.e. wheelchairs, carts, slide boards, etc.).
- Use equipment properly and conscientiously.

Efficiency

- Perform with the speed and accuracy that would be appropriate for the experience level of the student for each exam.
- Formulate a routine that would help reduce unnecessary repeat images.
- Learn from previous mistakes and avoid redundant errors.

Documentation

- Interpret information on the medical chart as needed.
- Document patient condition, history, and radiographic interpretation in accordance with facility protocol.
- Competently utilize the Epic and PACS
- Demonstrates critical thinking concerning medical legal issues.
- Utilize medical abbreviations approved to the medical field and medical center.

Image Processing

- Evaluates and archives images in accordance with facility protocols and equipment utilized.

Exam Evaluation

Image critique

- Identify different projections taken for each exam.
- Evaluate radiographs for adequate receptor exposure and contrast.
- Evaluate radiographs for acceptable positioning.
- Recognize proper collimation, correct usage of radiographic markers and patient identification.
- Recognize unwanted artifacts and motion.
- Identify pertinent anatomy on radiographs.

Processing paperwork and exam completion

- Know proper procedure for completing exam/patient paperwork.
- Know the procedures for organizing images before interpretation.

Professionalism

Team participation (dependability)

- Demonstrate the ability to work well with others.
- Foster cooperation and civil behavior.
- Act in a professional and courteous manner.
- Consideration for the welfare and interest of co-workers.
- Demonstrate a high level of initiative for clinical guidance and involvement with procedures of the clinical area.

Receptiveness (adaptability)

- Show a positive attitude towards constructive criticism.
- Demonstrate a willingness to accept direction and supervision.
- Adapt to daily situations.
- Aggressively demonstrate a desire to learn and improve knowledge and skills.

Attendance

Maintain an acceptable attendance record in accordance with program guidelines and in doing so complete all required clinical competencies in a timely fashion.

Mobile Imaging Student Objectives

The student will:

1. Assist in performing mobile examinations and daily tasks. Follow instructions and guidelines offered by the radiologic technologist.
2. Identify and properly manipulate all mobile radiographic equipment.
3. Know the function and safely operate the radiographic equipment.
4. Demonstrate standard precautions and maintain a clean and safe environment.

5. Follow the appropriate isolation precautions when applicable.
6. Locate and stock accessory equipment and supplies for all mobile radiographic equipment.
7. Safely maneuver the mobile radiographic unit to all exam areas.
8. Ensure that the mobile unit has always at least two lead aprons stocked on it.
9. When entering a patient's room; knock before entering the room, introduce yourself appropriately, and explain the procedure.
10. Identify the patient as per medical center protocol.
11. Observe and evaluate the patient's condition throughout the course of the exam.
12. Properly manipulate tube locks and controls.
13. Correctly set manual technique for the various types of mobile exams.
14. Identify and use mobile automatic exposure control equipment when applicable.
15. Know how to safely park and charge the mobile unit.
16. Understand safety protocols regarding ferrous materials within the MRI department.

Surgical Rotation Student Objectives

The student will:

1. Comply with instructions and guidelines offered by the supervising technologist.
2. Understand the mechanics and functions of all mobile/surgical radiographic equipment. Demonstrate efficient manipulation of the mobile/surgical radiographic equipment including the C-arm.
3. Demonstrate proficient skills in setting radiographic techniques for surgical procedures.
4. Demonstrate proper assembly and disassembly of the mobile C-arm image intensifier and image monitor.
5. Practice sterile technique. Beware of sterile equipment and personnel in the surgical room. Avoid contamination of the sterile fields.
6. Know and obtain correct size and type of image receptor/grids for each procedure.
7. Assist and identify with procedures requiring appropriate cleaning and draping of equipment for each surgical case.
8. Assist the technologist in the completion of case paperwork for each procedure.
9. Identify the contrast media used for the different examinations in surgery.
10. Evaluate the radiographic quality of the images completed during each surgical case. Identify errors and how to correct them accordingly.
11. Assist with the following surgical exams:

a. Pre-operative images	b. Post-operative images
c. Open & Closed reduction images	d. Bi-Plane imaging
e. Image Intensification cases	f. Contrast studies
g. Orthopedic Prosthetic studies	h. Interventional studies

Angiography/Vascular Imaging Student Objective

The student will:

1. Follow instructions and guidelines provided to you by the vascular staff. Assist in performing vascular exams and daily tasks.
2. Identify major vascular anatomy demonstrated on procedures performed during this rotation.
3. Identify the use of catheters in vascular studies and understand the reasons for utilizing different types of catheters for different procedures.
4. Explain the Seldinger technique and how it is used to introduce the catheter into the appropriate artery.
5. Know the purpose of automatic injectors in vascular radiography and be able to load contrast into power injectors.
6. Understand and demonstrate the importance of strict asepsis during vascular procedures. Be able to set-up a procedural tray using sterile technique.
7. Know where to find the emergency supplies on the crash cart specific to cardiovascular.
8. Define the following terms:

Aneurysm	Subtraction	Ionic Contrast
DSA	CVA	Stenosis
Pixel shifting	Mask	Coagulation (PTT &PT)
TIA	Embolus	Angiography
9. Understand the importance of BUN and Creatinine levels in regard to the amount and type of contrast media utilized.

Computerized Tomography Student Objectives

The student will:

1. Assist in performing Computerized Tomography examinations and daily tasks. Follow instructions and guidelines offered by the C.T. staff.
2. Identify various anatomy visualized on cross-sectional images dependent upon various imaging planes.
3. Recognize any pathological conditions present on the computerized tomography image such as: (e.g., stroke, metastasis to the brain or liver, mass in the lungs, etc.).
4. Define the following terms/pathologies:

Slice	Scan	Window	CTA
Gantry	Pilot	Pixel	Recon
Matrix	Archiving	Voxel	ROI
5. Be able to set up basic computerized tomography examinations. This will include patient positioning, table increments, and slice thickness.
6. Observe biopsy examinations and understand the purpose behind the procedure.
7. Be familiar with contrast media utilized in computerized tomography studies and potential contrast reactions.
8. Understand radiation dose differences between CT and general diagnostic radiology.

9. Be able to satisfactorily complete basic non-contrast CT exams under direct supervision, while assisting with routine contrast studies.
10. Observe and assist in setting up and utilizing the power injector in accordance with appropriate injection rates specific to each exam

Bone Densitometry Student Objectives

The student will:

1. Follow instructions and guidelines provided by the supervising technologist. Assist the technologist in routine scans.
2. Demonstrate the ability to power up and power down the equipment of bone density.
3. Assist with the daily QA and log results, if possible.
4. Understand the importance of getting a patient medical history and entering height and weight into the computer.
5. Position the patient for scan selected in accordance with facility protocols.
6. Identify and perform any modifications for patient history as indicated.
7. Identify and determine correct anatomy for proper measurement calibration.
8. Perform scans properly and analyze data accordingly.
9. Print reports in accordance to facility protocol.
10. Observe database archiving, deleting, obtaining, and restoring scan protocols.
11. Identify pathology demonstrated on scans.
12. Assist in accurately completing paperwork required at the clinical site

Cardiac Catheterization Lab Student Objectives

The student will:

1. Follow the instructions and guidelines offered by the cardiac catheterization lab personnel.
2. Identify major coronary vascular anatomy demonstrated on procedures performed in this rotation. Distinguish between a right and left heart catheterization.
3. Identify the use of different coronary catheters used to visualize the coronary arteries.
4. Explain the Seldinger technique and how it is used to introduce the catheter into the appropriate artery.
5. Understand why pulses are assessed distal to the puncture site for evaluation of adequate blood flow before and after the exam.
6. Locate the crash cart and other emergency supplies. Discuss the usage of common drugs used in cardiac catheterization procedures.
7. Observe the patient monitors found in the cardiac catheterization lab and understand the importance of monitoring the patient's vital signs during the procedure. Know why the pressures are monitored in each chamber of the heart and the aorta.
8. Describe the procedure of Percutaneous Transluminal Coronary Angioplasty. Know the risks and benefits of this procedure to the patient.
9. Define the following terms:

Cardiac Output	Ischemia	Myocardial
Ejection Fraction	Swan Ganz	Thrombolytic
LAD	Circumflex	

10. Read the chapter pertaining to cardiac catheterization in *Fundamentals of Special Procedures* by Albert Snopek.

Magnetic Resonance Imaging Student Objectives

The student will:

1. Assist in performing MRI examinations and daily tasks. Follow instructions and guidelines offered by the MRI technologist.
2. Identify various anatomy demonstrated on MRI scans.
3. Define the following terms:
Axial Plane
Coronal Plane
Sagittal Plane
MRA
4. Understand and know the reasons for screening all patients prior to entering the magnet.
5. Identify pathological conditions found on MRI imaging.
6. Assist patient as needed with any MRI exam.
7. Observe and evaluate the patient's condition throughout the course of the exam.
8. Know the appropriate contrast media utilized for MRI examinations and required laboratory screening procedures.
9. Be familiar with protocols regarding pregnancy, metal workers, aneurism clips, pacemakers, etc.
10. Understand safety protocols regarding ferrous materials within the MRI department.

Nuclear Medicine Student Objectives

The student will:

1. Assist in performing nuclear medicine examinations and daily tasks. Follow instructions and guidelines offered by the nuclear medicine staff.
2. Understand the basic principles of the imaging techniques used in nuclear medicine.
3. Discuss the major nuclear medicine studies performed and understand their analysis/interpretation/and preparation prior to the procedure (e.g., PET-CT, myocardial perfusion with thallium/sestamibi, MUGA, gallium, iodine-131, bone scans, etc.).
4. Define the following terms:
Half-life
Radionuclide
Gamma Camera
Radiopharmaceutical
Curie
MUGA
Iodine-131
Technicium-99

5. Identify the different radiopharmaceuticals utilized in the nuclear medicine department, safety protocol, and half-life.
6. Define the following procedures:

Bone scan	Thyroid scan	Lung scan
Gastric Emptying	Renal Scan	Myocardial Perfusion
7. Demonstrate knowledge of radiation safety precautions and the ALARA concepts.
8. Demonstrate recognition of, and adherence to, ethical and professional responsibilities.
9. Demonstrate proficiency in obtaining a relevant patient history.
10. Demonstrate proficiency in patient care throughout the course of the exam.

Radiation Therapy Student Objective

The student will:

1. Observe and assist in daily radiation treatments and simulations. Follow instructions and guidelines offered by the Radiation Therapist.
2. Observe procedures with treatment planning and dose calculations performed by the dosimetrist.
3. Define the following terms:

Linear accelerator	MeV
Fractionation	Metastasis
Tumor Volume	Field
MV	Dosimetry
SSD	cGy/Gy
4. Observe and evaluate the patient's condition throughout the course of the treatment.
5. Aid the patient throughout the treatment as needed.

CLERICAL ROTATION OBJECTIVES

1. To obtain a thorough understanding of the integration of the Radiology department with the clerical setting.
2. To gain an understanding of the preparations for examinations throughout the Radiology Department.
3. To understand the sequencing of examinations and the reasons for exam interference.
4. To understand the indications and contraindications of the various procedures.
5. To enhance patient relation skills by understanding patient fears and anxieties.
6. To understand the medical legal aspects involved with the release of images and reports to patients, relatives, lawyers, and physicians.
7. To reinforce medical terminology skills.
8. To gain a more thorough knowledge of PACS and its usage within the medical field.
9. To understand the importance of preparations and patient risk factor have on the scheduling of examinations with regard to the patient's welfare.

10. To understand the interaction between sub departments within the Radiology department as it relates to patient care and scheduling.
11. To understand departmental policies and procedures concerning prescriptions, reports, x-ray folders and how the policies are based on the laws of New Jersey and JCAHO standards and HIPAA regulations.