



Cleveland Clinic

School of Health Professions

Mercy Radiologic Technology Program

**Mercy Radiologic Technology Program
Supplemental Handbook
2026-2027**

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PROFESSIONAL ORGANIZATION INFORMATION

[ARRT Continuing Education Requirements](#)

Links to the websites for the following organizations can also be found on the [Additional Information tab](#) of the program's website and on our learning management system.

[JRCERT Standards for an Accredited Educational Program in Radiologic Sciences](#)
[The American Registry of Radiologic Technologists \(ARRT\) Standards of Ethics](#)
[ARRT Application Process](#)
[The American Society of Radiologic Technologist \(ASRT\)](#)
[The Ohio Society of Radiologic Technologists \(OSRT\)](#)

SCHEDULING

Class Schedules

The master program curriculum schedule is planned for the entire program. It will be distributed to the students during orientation week to both the Juniors and Seniors.

Semester course schedules are posted in the Radiologic Technology classroom. It is the student's responsibility to attend all scheduled classes.

No classes will be scheduled on weekends, evenings or on days when students are routinely scheduled off. Students requesting days off when classes are scheduled are responsible for making prior arrangements with the course instructor.

Class Days vs. Clinical Days

Students will be provided with a clinical schedule and a class schedule for each semester. Start times for clinical rotations will vary according to the schedule in the clinical notebook. A student schedule is also posted within the Radiology Department. Class days will begin at the time listed on each course syllabus and end times will vary each semester. During class days, students are not permitted in the clinical setting. If a day is a combination of class and clinical, the student will be required to adhere to the clinical dress code.

Schedules may be subject to change due to unforeseen circumstances.

Lunch times are posted in the department for clinical rotations. All lunches during clinical days are 45 minutes in length. Lunches during class only days will be one hour from 12:00 pm – 1:00 pm. Students are not permitted to leave the premises for lunch without approval from the Program Director or Full-time Faculty/Clinical Coordinator.

Clinical Rotations

Students are assigned to clinical rotations on a weekly or bi-weekly basis. Students are required to stay in their clinical area to get practice and obtain check-offs (clinical competencies) needed for the semester. After check-offs are completed, they will remain in that rotation so they can retain competency on exams. Students will only be pulled from their assigned areas for exams that are rare or uncommon.

During the last two weeks of the semester, students will be allowed to leave their area to attempt check-offs needed for the semester, only if they already have the check-offs required in the area to which they are assigned.

Summer Clinical Session

Students will be in the Summer Clinical Session, Monday, Tuesday, Thursday, and Friday beginning the week following the graduation break week.

Summer Clinical Session will consist of 12 weeks of clinical and classroom experience.

The student will be required to complete a **minimum of four exam competencies** during the Summer Clinical Session. One competency must be an elective.

Students are encouraged to use this time to gain extra clinical practice and get ahead on competencies required for 3rd semester.

No fails will be documented during the Summer Clinical Session. However, all other demerits and attendance points still apply.

Demerits and attendance points will be subtracted from your clinical grade score.

Daily Shift Assignments

Students may be scheduled up to 40 hours per week. This will include weekdays and Saturday evenings and will encompass both clinical and class instruction time.

Afternoon/evening shifts will be restricted to Saturdays only. Saturday clinical rotations are a required part of the Mercy Radiologic Technology Program. These shifts run from 3:00 pm - 11:00 pm and students will complete a total of **three** Saturday afternoon/evening shifts during the Program.

Prior to being assigned to Saturday afternoon/evening clinical shifts; the student must have demonstrated satisfactory completion of all competencies required for both the 1st and 2nd semesters of the Mercy Radiologic Technology Program.

*NOTE: Student supervision outside of normal shifts will follow the established student supervision guidelines.

**NOTE: Changes to the clinical rotation schedule may not be made without approval from Mercy Radiologic Technology Program faculty. Students will not be used as staff support in the Cleveland Clinic Mercy Hospital Department of Radiology for activities unrelated to their clinical education.

Weekend Assignments

Second-year students are scheduled to complete a total of three Saturday clinical rotations. Saturday rotations are assigned to the afternoon shift from 3:00 p.m. to 11:00 p.m. The schedule is posted several months in advance; however, if a conflict arises, students may request to switch with another student or change to a different weekend with approval from the

Program Director or Full-Time Faculty/Clinical Coordinator.

A “Clinical Schedule Exchange” form must be completed, signed, and dated by all students involved in the schedule change. The form must also be approved by the Program Director or Full-Time Faculty/Clinical Coordinator before any changes are made to the official schedule. Students are limited to a total of three weekend switches for the duration of the program.

When a Saturday rotation is switched, the student will receive the following Monday off, consistent with all scheduled Saturday rotations. If a student is already scheduled off during the week of the switched Saturday rotation, no additional Monday time off will be provided.

Distribution of Clinical Experience

1. Students attend clinical rotations Monday through Friday. Clinical rotation schedules are posted prior to the start of each clinical experience. To maximize radiographic learning experiences and educational opportunities, all students are required to complete three Saturday evening clinical rotations, scheduled from 3:00 p.m. to 11:00 p.m. Students may request additional evening clinical rotations. Students are expected to adhere to their assigned rotation schedules. Students will not be scheduled for combined class and clinical time exceeding eight hours per day.
2. Students must complete all required competency examinations prior to participation in any alternate rotation.
3. Students will complete clinical rotations in a hospital setting and at a minimum of one family health center or outpatient facility. All required clinical assignments will be posted in advance of each semester. Student rotations will be determined by the program and may not be altered by the clinical site without approval by the Full-time Faculty/Clinical Coordinator.
4. The clinical site is responsible for ensuring that all student experiences are educational in nature. Students may not be used in place of employees.
5. If a student’s supervising technologist leaves the department for any reason (e.g., illness, flex time, medical appointment) and no qualified individual is available to assume supervision, the student will be dismissed from the clinical site. Time missed under these circumstances will not be deducted from the student’s PTO.
6. The Program Director reserves the right to relocate or reassign a student’s clinical site due to extenuating circumstances.

Scheduling/Total Time Allowed

The total number of hours a student spends in the Mercy Radiologic Technology Program may not exceed 40 hours per week. This total includes classroom instruction and clinical experience, including any assigned Saturday second-shift rotations.

Averaging of hours across weeks is not permitted (e.g., working 45 hours one week and 35 hours the following week to equal 80 hours).

To ensure quality patient care, a student may remain beyond their scheduled shift end time

solely to complete the imaging examination in progress.

Earned Clinical Time – Clinical Day

During the 1st, 2nd, and 4th semesters, students may earn 12 hours of clinical time per semester if all clinical requirements are completed at least one week prior to the end of the semester. Clinical requirements include room check-offs and examinations. Clinical time is not awarded during the 3rd (summer) or 5th semesters.

Earned clinical time must be used in two-hour increments and must be scheduled and used by the end of the following semester; unused time will be forfeited. This time may be used on any scheduled clinical day with prior approval, provided the request is made at least 24 hours in advance. Earned clinical time may not be used toward scheduled Saturday clinical rotations.

EVALUATION

Course Failure

In the event a student fails a course with an (**F**), either clinical or didactic, the student will be **terminated** from the Cleveland Clinic School of Health Professions Mercy Radiologic Technology Program.

If a student earns a grade of D in any didactic or clinical course, the student will be placed on probation for the following semester (second through fifth semesters). At the conclusion of the probationary period, the student's progress will be reviewed by the Mercy Radiologic Technology Program faculty. To avoid dismissal from the program, the student must successfully complete all didactic and clinical coursework during the probationary semester.

The curriculum includes built-in assessment measures designed to monitor student progress. These measures allow faculty to identify concerns early, provide timely support, and implement strategies to assist students in achieving successful course outcomes.

Documentation of all didactic and clinical interventions will be maintained in the student's permanent academic record.

Didactic Course Test Remediation

Radiographic Positioning & Procedures I & II: Students must earn a minimum score of 75% on each written examination. Any student who scores below 75% on a written test in Radiographic Positioning & Procedures I or II is required to complete a re-test before being permitted to attempt a clinical competency related to that examination. The original failing score will remain the recorded grade. The student must meet with the course instructor to schedule the re-test. A passing re-test score is considered an intervention and will be documented in the student's permanent file for liability purposes. Failure to achieve a score of 75% or higher after two re-test attempts will result in dismissal from the program.

Remediation for all other didactic courses: Any student who earns a score below 75% on a written test in any didactic course (excluding midterm and final examinations) will be required to complete remediation.

Remediation will be completed as follows:

- The student will receive a list of the questions answered incorrectly on the examination. For each question, the student must identify and cite the corresponding PowerPoint slide(s) or textbook page(s) where the correct information is located.
- For each acceptable citation and written explanation submitted, the student may earn $\frac{1}{4}$ point, up to a maximum adjusted score of 75% on the examination.
- All citations and written explanations must be submitted no later than seven days following the original examination date.

Full-time Faculty/Clinical Coordinator Evaluation of Students

The Full-time Faculty/Clinical Coordinator for the Mercy Radiologic Technology Program is responsible for evaluating student performance in diagnostic radiology.

The Senior-Lead Technologist/Supervisor shall function as the Clinical Preceptor as their Designee in the following areas:

- Computed Tomography
- Nuclear Medicine
- Radiation Therapy
- Special Procedures/IR
- Surgery/Portables
- Ultrasound
- Mammography
- Magnetic Resonance Imaging
- Cardiac Cath Lab
- Stat-Care (Off-site North)
- Central Transport

Clinical Preceptor Evaluation of Students

The Clinical Coordinator for the Mercy Radiologic Technology Program is responsible for evaluating student performance in the clinical environment.

The Clinical Preceptors shall function as the Full-time Faculty/Clinical Coordinator's designee in the absence of the Full-time Faculty/Clinical Coordinator or the Program Director.

The Clinical Preceptors in Radiography at Cleveland Clinic Mercy Hospital must have the following qualifications:

- Registered by the ARRT in Radiography
- Employed by the Cleveland Clinic Mercy Hospital for a minimum of one year (in good standing, not under any disciplinary actions)
- Completed Preceptor Training

Competency Based Criteria

Minimum acceptable levels of performance have been established for clinical education. These address both quantitative and qualitative standards.

QUANTITATIVE:

Each semester has required minimum numbers and types of clinical procedures that must be completed. Successful completion of all required competencies is necessary to earn 100% of this portion of the clinical grade.

For each required competency that is not completed, 10 points will be deducted from this portion of the grade, and the student will be placed on clinical probation for the semester.

QUALITATIVE:

Minimum performance standards have been established for all clinical procedures. To be considered competent, a student must achieve a score of 80% or higher on each procedure.

The average of all clinical competency scores earned during the semester will determine this portion of the student's clinical grade.

Competency Test-Outs

Competency test-outs may be permitted during the final six weeks of the fourth semester when a required exam has not been available to meet semester requirements.

In rare or exceptional circumstances, test-out examinations may be permitted during the third semester, as determined by the Program Director and the Full-Time Faculty/Clinical Coordinator on a semester-by-semester basis.

Whenever possible, clinical competencies should be completed on an actual patient. An exception may be made during the fourth semester to allow test-outs in order to meet ARRT graduation requirements.

Computation of Clinical Grades

Students are expected to complete all required clinical competencies as outlined in the clinical course syllabus for each clinical education rotation. Minimum acceptable performance standards have been established for every rotation, with clinical objectives progressing in level of difficulty to reflect the student's advancement through the program.

Clinical grades are calculated based on the average of clinical competency scores, completion of the required number of competencies for the rotation, and any merits or demerits earned during the semester. Students who fail to complete the required number of competencies by the end of the semester will receive a 10-point deduction in this portion of the clinical grade and will be placed on clinical probation.

Any clinical grade that falls below 80% will result in automatic placement on clinical probation.

Satisfactory clinical performance must be maintained throughout all five semesters, including the summer clinical session, to remain in good standing. Clinical performance is evaluated each semester, and students who do not meet minimum standards will be placed on probation.

Exam Practice Log

Students are required to complete a specified number of practice examinations before attempting competency on a particular exam. Practice examinations should be performed with a clinical preceptor whenever possible; however, when a preceptor is not available, practices may be completed with a qualified technologist. Due to the complexity of fluoroscopic procedures, the majority of fluoroscopy exams must be practiced with a clinical preceptor.

Trajecsyst is used to document practice examinations, competency completion, evaluations, and clinical time. Prior to attempting a competency, students must complete two documented practice exams in Trajecsyst under the supervision of the Full-Time Faculty/Clinical Coordinator or a clinical preceptor. Students may also receive credit for practice examinations completed on weekends when supervised by a qualified technologist.

Failed Competencies

Each student is permitted one failed competency per semester and summer session that will not be factored into the clinical grade. The first failed competency, regardless of the examination type, will be excluded from grade calculation.

All subsequent failed competencies during that semester will be included in the calculation of the final clinical grade.

Proof of Competency in Performing Procedures

Students may not perform any procedure without direct supervision until competency for that procedure has been formally evaluated. Competency evaluations are conducted by the Program Director, Full-Time Faculty/Clinical Coordinator, or approved clinical designees. In specialized areas, competency evaluations may be performed by a designated technologist.

A current list of procedures for which each student has demonstrated competency will be maintained and posted in a central location within the Cleveland Clinic Mercy Hospital Radiology Department. This list will be updated on an ongoing basis by the Full-Time Faculty/Clinical Coordinator or the Program Director of the Mercy Radiologic Technology Program.

Required Clinical Competencies (Check-Offs)

During the 21-month training, the student must prove competence in the following procedures and have knowledge of the following equipment.

Revoked Check-Offs

Check-offs can be revoked if the student does not retain competency and is performing procedures incorrectly. If a check-off is revoked, the student must practice three exams with the Full-time Faculty/Clinical Coordinator or designate before being able to regain competency for the procedure. A revoked check-off also results in a demerit.

Validation of Clinical Competency Requirements

The required clinical competencies will be reviewed by the Program Director and appropriate faculty.

The following criteria should be used in updating clinical requirements:

- ARRT Clinical Competency Requirements
- Availability of Procedures in the Cleveland Clinic Mercy Hospital's Radiology Department
- Availability of Clinical Assignments for each student
- Difficulty level of required procedures
- Time constraints of training process
- Requirements for potential employees

*NOTE: The Program Director is responsible for conducting external validation studies of the program and reporting to the advisory committee. The Program Director may seek advice from other personnel either internally or externally through the educators' network in the radiologic sciences.

SUPERVISION OF STUDENTS

1. Students will not take the responsibility or the place of qualified staff. Until students successfully complete a competency evaluation in a given procedure, all clinical assignments must be carried out under the direct supervision of qualified radiographers.
 - A qualified radiographer reviews the request and orders for examination in relation to the student's achievement.
 - A qualified radiographer evaluates the condition of the patient in relation to the student's achievement.
 - A qualified radiographer is present during the performance of the examination.
 - A qualified radiographer reviews and approves the radiographs.
2. After demonstrating competency, students may be permitted to perform procedures with indirect supervision. Indirect supervision is defined as that of supervision provided by a qualified radiographer immediately available to assist regardless of the level of student achievement. The following are the parameters of indirect supervision:
 - A qualified radiographer reviews the request and orders for examination in relation to the student's achievement; the student is also required to review the patient orders for accuracy.
 - A qualified radiographer evaluated the condition of the patient in relation to the student's achievement.
 - A qualified radiographer is present in an area adjacent to the student.
 - A qualified radiographer reviews and approves the radiographs.
3. The number of students assigned to the clinical site must not exceed the number of clinical staff assigned to the radiography department. The student to radiography clinical staff ratio must be 1:1, in addition students are never allowed to work together. However, it is acceptable that more than one student may be temporarily assigned to one technologist during uncommonly performed procedures. In the event there are not enough technologists to maintain the 1:1 ratio, students may be reassigned to a different area to maintain proper supervision requirements.

4. Unsatisfactory radiographs must be repeated only in the presence of a qualified radiographer.
5. Students must not perform any radiographic examination without direct supervision until they have completed a competency evaluation with an 80% or higher on that specific examination.
6. Students must be directly supervised during surgical and all mobile, including mobile fluoroscopy, procedures regardless of the level of competency.

Program clinical preceptors are assigned in each of the clinical facilities. If the program clinical preceptors are unavailable because of illness, time off, schedule, etc., the positions will be covered by department clinical preceptors. These individuals will be the supervisors, or their designee. This assures that students always have a clinical preceptor to provide instruction and assistance.

Student Assigned Locations:

- Students assigned to the Operating Room (OR) rotation must remain in the technologist work area with the assigned OR Technologist at all times.
- Students assigned to Pain Management must remain in the technologist work area with the Pain Technologist. When scheduled in Pain, students are expected to remain in the Pain Imaging Suite unless the Pain Technologist leaves due to a lack of scheduled cases.
- Students assigned to Fluoroscopy Rooms 4 or 5 must remain with the Fluoroscopy Technologist. After all scheduled fluoroscopy cases are completed, the student will continue working with the Fluoroscopy Technologist for the remainder of the scheduled clinical day.
- Students assigned to the Emergency Department (ED) must remain with the ED Technologist wherever they are working. If the ER Technologist cannot be located using the Clinical Technologist Schedule, the student must report to the ED to determine whether the technologist is performing a case in the ED X-ray room or is temporarily out of the department. Students must continue working with the ED Technologist until the end of their scheduled clinical day.

DEMERIT/MERIT PROGRAM

The demerit (Corrective Action) system was designed to keep the students compliant with the rules and objectives of the Mercy Radiologic Technology Program and The Cleveland Clinic Mercy Hospital facility policies. Demerits can only be issued by the Program Director or Clinical Coordinator. Certain violations, as listed below, will warrant an initial verbal warning prior to a demerit being issued. If the student violates the same policy a second time, a demerit will be issued. Other violations, as listed below, will result in an automatic demerit or further disciplinary action pursuant to the Corrective Action Policy. Any demerit given in a semester will be a deduction of four points; taken from the final clinical grade. Each semester all students will begin with zero demerit points.

The merit system was designed to reward students for exceeding expectations required by the program. A merit is worth three hours of clinical time. Merits can only be issued by the Program

Director, Full-time Faculty/Clinical Coordinator or Faculty. Merits received during a semester must be used by the end of the following semester.

Any student earning a merit can only use it as clinical time off if they have no demerits for that semester. If the student has demerits, the merit can be used to erase one demerit for that semester thus voiding its use as clinical time off. Merits earned in a previous semester cannot be used to erase demerits in the present semester.

For the violations listed below, a verbal warning will be given prior to a demerit being issued. If the policy is violated a second time, a four-point demerit will be given.

1. Neglecting room duties schedule
2. Late to a clinical area
3. Leaving clinical area without informing the technologist
4. Not participating when exams are being performed
5. Not following assigned lunch break times
6. Taking longer than allotted lunch break times
7. Having cell phones or electronics in the clinical setting
8. Eating in non-designated areas
9. Not wearing or losing radiation badge

NOTE: One verbal warning will be given during the two-year program for dress code violations. Any further incidents will result in a four-point demerit

Automatic four-point demerits with no verbal warning:

1. Not having markers or dosimeter while in the clinical area
2. Not using markers on an exam while in the clinical area
3. Not turning in weekly log sheets or staff evaluations by the end of the following week. *If the student is scheduled off the following week; the logs are due on the Monday following that scheduled week off. (two points for first offense if turned in late)
4. Not turning in reports for specialty areas by the end of the rotation
5. Not having images checked by staff
6. Performing repeats without supervision or direction from staff
7. Having clinical competencies revoked
8. Not following professional standards or objectives
9. Performing exams without direct supervision before achieving a competency

For the violations listed below, a Final Written Warning or three-day suspension will be issued pursuant to the Corrective Action Policy. If the policy is violated a second time, the student will be disciplined pursuant to the Corrective Action Policy and may face dismissal from the program.

1. Reporting to class or clinical experience under the influence of alcohol or drugs
2. Inappropriate treatment of a patient for any reason
3. Insubordination or refusal to perform a reasonable assignment after having been instructed to
4. Failure to conform to professional ethics
5. Clocking in and not reporting to your assigned area without permission or leaving your assigned area without permission
6. Fighting or gambling on Cleveland Clinic premises

Students who commit the following offenses outlined below will be disciplined pursuant to the Corrective Action Policy upon the 1st offense, which may result in dismissal from the program:

1. Possession, use, or sale of alcohol, narcotics or controlled substances on hospital property.
2. Threat of or actual physical or verbal abuse of patients, visitors, staff, employees or students.
3. Falsification of any official hospital or school record.
4. Possession of firearms or other weapons on school/hospital premises.
5. Sexual, racial or other harassment or verbal or physical threats against a fellow student, employee, visitor.
6. Unauthorized possession, use, copying or revealing of confidential information regarding patients, employees, students, or school/hospital activity including on social media sites.
7. Any conduct seriously detrimental to patient care, fellow, students, employees, or the school.
8. Any other serious failure of good behavior or gross neglect of duty.

Merits received for a semester must be used by the end of the following semester. They can be used at any time and will not count against attendance record. The only exception is calling in the morning to say you are using merit time to come in late. This is not acceptable and will be counted against attendance. Merits for perfect attendance and exceeded competencies in the final semester will be given if the student has perfect attendance as of April 30th. Merits for no demerits in the final semester will be given if the student has no demerits as of April 30th.

Merits: resulting in three hours of clinical time, will be given for the following reasons:

1. Perfect attendance in a semester (no tardiness or call-offs)
2. Written thanks from patients or physicians
3. Not receiving any demerits in a semester
4. QI slip for exceptional exam from a Radiologist

Merits will also be given at the end of the semester if the student exceeds the number of required competencies for that semester, excluding equipment check-offs and rotation requirements, according to the following list:

- 1st semester – no merits given due to minimal requirements
- 2nd semester – merit for 20 or more competencies completed
- 3rd (Summer) semester – no merits given
- 4th semester – merit for 35 or more competencies completed
- 5th semester – merit for 52 or more competencies completed

CONDUCT & INFRACTIONS

The student is expected to observe good standards of conduct and practice. The following list of violations will result in Corrective Action up to and including dismissal from the Mercy Radiologic Technology Program. This list is not all inclusive. The Program Director reserves the right to add to this list if it is warranted.

- a. Negligence or inconsiderate treatment of patients, visitors, or employees.
- b. Habitual absences or tardiness without cause.
- c. Absence of three consecutive days without notification.
- d. Willful destruction of property.
- e. Insubordination.

- f. Possession or drinking of liquor or alcoholic beverages on Cleveland Clinic Mercy Hospital premises or while representing the Medical Center off site.
- g. Illegal use or possession of a controlled substance.
- h. Immoral, rude, or disorderly conduct.
- i. Sleeping or loitering while on duty.
- j. Willful violation of any Cleveland Clinic Mercy Hospital policy.
- k. Theft.
- l. Breach of confidential information.
- m. Other infractions not addressed by Mercy Radiologic Technology Program policy but follow Cleveland Clinic Mercy Hospital policy.
- n. Chewing gum, eating, or drinking beverages in the patient contact area.
- o. Cheating and/or plagiarism.
- p. Use of any smoke-producing products (including but not limited to cigarettes, e-cigarettes, cigars, pipes and vaporizers (aka “vapes”), or the usage of any tobacco products is prohibited on all Cleveland Clinic owned and leased properties and private property adjacent to the facilities.

ACADEMIC COUNSELING

- The students will have their grades reviewed after mid-semester and at the end of each grading period by the Program Director and Full-time Faculty/Clinical Coordinator. The student’s strengths, weaknesses and progress will be evaluated. The Program Director and Full-time Faculty/Clinical Coordinator will schedule a counseling session with all students at these specified intervals to assess student progress.
- Students are encouraged to meet with individual instructors to review progress any time throughout the classes.
- Clinical evaluations will be reviewed with the students as soon as possible after they are received.

EMPLOYMENT GUIDELINES FOR STUDENTS

The program does not regulate whether a student is employed or the number of hours a student works outside of program requirements. If a student is employed at a clinical site as a technologist assistant, technologist aide, or in any other position, time worked as an employee may not be counted toward clinical education requirements.

Clinical competencies may not be completed during hours worked in any employment role within the hospital. All required clinical competencies must be performed during scheduled program clinical hours.

The school will not modify clinical rotation schedules, course objectives, examination dates, or other program requirements to accommodate a student’s employment schedule.

POST-GRADUATION EMPLOYMENT

When a position becomes available within the Department of Radiology at Cleveland Clinic Mercy Hospital, graduating students may be considered for employment. Selection is based on academic achievement and clinical performance throughout the two-year program. Graduating

students interested in employment with Cleveland Clinic Mercy Hospital must submit an application through the Department of Human Resources.

Graduation from the Mercy Radiologic Technology Program does not guarantee employment with the Department of Radiology or Cleveland Clinic Mercy Hospital. The Medical Center employs registered radiographers only.

Graduates who are not employed by Cleveland Clinic Mercy Hospital have no further obligations to the program upon completion of all graduation requirements. Students who qualify for early release are considered free of program obligations at that time.

The program does not offer a formal job placement service. All known employment opportunities are posted on the Cleveland Clinic Mercy Hospital website.

PROBATIONARY PERIOD FOR NEW STUDENTS

The Mercy Radiologic Technology Program makes every effort to carefully screen, select, and place students in positions that support their success; however, appropriate placement can best be evaluated through a trial (probationary) period. During this period, faculty and students will engage in ongoing communication to determine whether continued enrollment is in the best interest of both the student and the program.

Procedure

New Students

- The first semester of the program will serve as the student's probationary period.
- During the probationary period, the Academic or Clinical Probation process does not apply. A student may be subject to dismissal without prior notice if, at any time during this period, it is determined that the student is not meeting the professional, academic, or clinical standards required for successful progression in the Mercy Radiologic Technology Program.
- Students will be closely monitored throughout the probationary period to assess their adjustment to departmental routines and compliance with School requirements. At the conclusion of the first semester, program faculty will meet to review each student's progress and determine continuation in the program.

SAFETY REQUIREMENTS & PROCEDURES

Radiation Monitoring Devices & Exposure Reports

The purpose of this section is to establish guidelines for the recording of exposures and use of Individual Monitoring Devices by the student according to Ohio Administrative Codes.

Quarterly dosimeters will be provided by the program to each student and must be worn whenever the student is at the clinical site or in the lab. Failure to do so will result in corrective action. If a student comes to clinical or lab without their dosimeter, they will not be permitted to continue their clinical experience or lab day until the dosimeter has been obtained. PTO time must be used during this time or missed time can be made up after graduation.

Location of Monitoring Devices

- If only one IMD is worn, it shall be worn at the collar level outside the lead apron.
- If two monitors are worn, one shall be at the collar level outside the lead apron and one shall be worn at the waist level under the apron. In case of pregnancy, a fetal badge should be worn at waist level, under a lead apron when one is worn (see Pregnancy Information section).
- When two monitors are worn, they must never be interchanged. In accordance with Ohio Administrative Code 3701:1-38-12(A)(4)(6)(i)(ii), the reported deep dose equivalent for the single IMD may be multiplied by 0.3 for determination of effective dose equivalent (EDE). For double IMD personnel, the EDE may be determined by multiplying the waist IMD reported value by 1.5 and adding the calculative value to the collar IMD dose value, multiplied by 0.04.

Exchange of Individual Monitor Devices

- A new dosimeter will be provided quarterly.
- No one shall purposely expose a personnel monitor.
- Since personnel monitors are designed to measure only radiation received occupationally, it should never be worn when receiving diagnostic and/or therapeutic radiation exposures as a patient.
- IMD must be worn only by the person to whom it is assigned.
- In the event of pregnancy, see the Pregnancy Information section.
- The student is responsible for returning the old dosimeter to the program designee for processing.
- If the dosimeter is lost, damaged, or not returned within 90 days of the wear date, a \$25.00 replacement fee will be assessed. This fee is charged to the program by the monitoring company and passed to the student via the Office of the Bursar and Financial Aid.
 - The student must complete the 'Lost, Damaged, or Not Returned Dosimeter Report' provided by the program and submit payment to the Office of the Bursar and Financial Aid.

Review of Personnel Monitoring Records

Each student must review and initial the monthly radiation exposure reports indicating they are aware of their radiation exposure.

- Students receiving doses in excess of over ALARA Level II limits, Level I = 125 mrem (1.25 Sv) and Level II = 375 mrem (3.75 Sv), will be notified as soon as possible. For those individuals with doses in excess of Level II, an investigation will be performed and documented immediately as to the cause with possible suggestions for prevention of such doses in the future.
- The dosimetry reports are retained indefinitely by the program. Annual written reports of occupational exposure are available for review at the end of the first month of the next calendar year.

Overexposure and Reporting Overexposures to the State

All exposures in excess of the legal limits as stated in Ohio Code 3701:1-38-21 will be investigated immediately. A written report will be filed to include the circumstances surrounding the overexposure and the measures taken to prevent it from happening again. Any individual receiving in excess of 5 rem (50 mSv) will report to the RSO any condition that may have led to the excess. All overexposures will be reported to the State in accordance with Ohio Code

3701:1-38-21 which states the following:

- Immediate notification by telephone if there is an exposure or threat of an exposure to the whole body ≥ 25 rems (0.25 Sv), to the lens of eyes of 75 rems (0.75 Sv), or a shallow dose to the skin or extremities or total organ dose of ≥ 250 (2.5 Sv) rems.
- Twenty-four hour notification by telephone if there is an exposure or the threat of an exposure to the whole body ≥ 5 rem (0.05 Sv), to the lens ≥ 15 rem (0.15 Sv), or a shallow dose to the skin or total organ dose to the extremities of ≥ 50 rem (0.50 Sv).

In addition to the notification, a written report will be filed with the State within 30 days. The report will include a description of the licensed or registered source of radiation involved. If it is a radioactive material, the report will state kind, quantity, chemical and physical form. For radiation generating equipment, the report will state manufacturer, model and serial number, type and maximum energy of radiation emitted. The report will include for each occupationally overexposed person, the name, social security number, and date of birth. The individual who received the overexposure will also be notified no later than notifying the state in writing.

State Required Exposure Limits for Education and Training

Whole Body; Head & Trunk	1 mSv / year
Active Blood Forming Organs	500 mSv / year
Lens of the Eyes; or Gonads	15 mSv / year
Hands, Forearms, Feet & Ankles	50 mSv / year
Skin of Whole Body	50 mSv / year
Embryo/Fetus– entire pregnancy	5 mSv / term

Radiation Safety Instruction

All radiography students must be under direct supervision while performing any procedures in fluoroscopy, or portables. Students must not hold image receptors or patients during any radiographic procedure.

The purpose of this section is to outline the necessary precautions for radiation safety when operating radiation equipment.

Procedure

- Students must be directly supervised during surgical and all mobile, including mobile fluoroscopy, procedures regardless of the level of competency.
- All involved personnel shall have knowledge of the principles of radiation protection.
- The central principle is that maintaining distance is the greatest single safety factor.
- A technologist/student using mobile equipment must inform anyone in the room/area of use of ionizing radiation before initiating exposure.
- Lead aprons and lead thyroid shields shall be required when unable to remain positioned behind the protective screen during fluoroscopic procedures or when in close proximity of any ionizing radiation.
- Protective lead eyeglasses are available for personnel who cannot remain behind protective screens during fluoroscopic procedures.
- Protective lead gloves shall be worn when hands are in direct beam.
- Involved personnel shall be supplied with a radiation monitoring device according to department policy.

- It is the responsibility of the department manager to ensure that protective equipment is readily available.
- If requested, the patient can be shielded during exposure.
- All equipment malfunctions will be reported to the manager or supervisor.

A. Mobile Radiographic Units:

- The x-ray technologist/student shall stand at least 6 feet from the x-ray tube when making an exposure and must wear a lead apron.
- The technologist/student shall inform the surrounding patients and general public that they are about to make a radiographic exposure and allow them ample time to step back or leave the area prior to the exposure.
- Anyone (including patients and personnel) within six feet of the patient at the time of the exposure must wear a lead apron.
- All radiographic mobile units will be stored in an access-controlled location, or the keys will be removed and kept in a secure location where only licensed radiology personnel have access.
- Ancillary protective devices such as ceiling drop shields, rolling floor shields, etc., should be used when available and feasible to the exam.

B. Stationary Fluoroscopy Units:

- All personnel not required to be in the room during fluoroscopy exposures and/or spot film, cine and DSA exposures should leave. If they must remain in the room, a lead apron and thyroid shield must be worn, and they shall be positioned so that no part of their body is in the useful beam.
- All personnel in the room during radiation exposures must stand as far away from the patient/x-ray tube as possible.
- The image intensifier carriage lead drape must remain on (where applicable) except when the clinical exam indicates otherwise, i.e., myelogram.

C. Mobile Fluoroscopy C-Arms:

- The technologist/student shall stand as far away from the patient/x-ray tube as possible while making C-arm exposures.
- All personnel required to be in the room during C-arm exposures shall wear a lead apron and thyroid shield and shall be positioned so that no part of their body is in the useful beam.
- Where applicable, the technologist/student shall inform all persons within the vicinity that they are about to make a fluoroscopic exposure and allow them ample time to step back or leave the area prior to the exposure.
- Ancillary protective devices such as rolling floor shields should be used when available and feasible for the exam.
- All mobile C-arms will be stored in an access-controlled location or the keys will be removed and kept in a secure location where only licensed radiology personnel have access.
- A safe distance of at least six feet should be maintained by anyone not needed at the patient's side during fluoroscopy exposures.

D. Mammography Units:

- The appropriate image receptor size and collimator shall be used for the breast size.
- All individuals other than those required to be in the room during exposure shall wear a lead apron and thyroid shield.

- The technologist/student shall stand behind the protective barrier when initiating an exposure.

Magnetic Resonance Imaging Safety

Any student entering the MR environment must have reviewed and signed the MRI Safety and Medical Eligibility Attestation. It is the student's responsibility to review their eligibility with their healthcare provider and notify the program immediately if they do not meet the eligibility requirements, especially upon implantation of a mechanical, metal or ferrous device. The electromagnetic fields associated with the MR environment pose a serious risk of injury to anyone with certain implants, devices, or materials. Hazards associated with the electromagnetic field include, but are not limited to; missile effect accidents, dislodgement or excessive heating of a ferromagnetic object, induction of electrical currents, and the misinterpretation of an imaging artifact as an abnormality.

The missile effect refers to the fringe field's ability to attract a ferromagnetic object into the scanner with considerable force. Common objects associated with these incidents include oxygen cylinders, floor buffers, IV poles, mop buckets, carts, chairs, ladders, monitors, tools, scissors, traction weights, and sand bags containing metal fillings. Allowing such devices into the MR environment can result in injury to the patient and/or the technologist.

Any ferromagnetic object or device placed in the magnetic field must have research documentation stating that the object's associated attractive force is insufficient to move or dislodge the object in situ or affect its intended function. Students must also adhere to the pulse sequences and techniques recommended by the manufacturer of these devices. This will eliminate temperature elevations in the object and avoid the induction of a current in the device. Examples of objects capable of generating an electrical current include electrocardiographic leads, indwelling catheters with metallic components, guide wires, disconnected or broken surface coils, certain cervical fixation devices, or improperly used physiologic monitors.

Implants, devices, and materials within the magnetic field, although proven safe, may still cause artifacts. Artifacts cause signal loss and distortion of the image resulting from a disruption of the magnetic field. The artifact's severity is associated with the object's magnetic susceptibility, quantity, shape, orientation or position in the body.

Any student in the MR environment must adhere to the safety standards outlined above, as well as abide by the rules set forth by the clinical site. If there is any question of the safety of a patient or student, the student must consult a qualified technologist or physician and documentation must be filed with the School. Any student that does not adhere to the rules, or jeopardizes the safety of any individual, including themselves, will minimally receive a written disciplinary action. Any blatant violation of the safety requirements may result in dismissal from the program, upon review by the advisory committee.

Students must have an MRI Safety and Medical Eligibility Attestation on file with the School if completing clinical training in MRI. Additionally, the Cleveland Clinic requires students who are doing a rotation in MRI to bring a copy of their safety attestation form to the MRI department.

Pregnancy

This section provides guidance regarding occupational exposure considerations for radiography students who are pregnant.

As specified in 10 CFR 20.1208 of the U.S. Nuclear Regulatory Commission, it is the program's/hospital's responsibility to ensure that the dose to the embryo/fetus from the

occupational exposure of a declared pregnant student/worker not exceed 5 mSv over the entire pregnancy. The program must also make an effort to avoid substantial variations in a uniform monthly exposure.

Procedure

A. Declaration of Pregnancy

The declaration of pregnancy must be in writing and is voluntary. That is, the pregnant student need not declare her pregnancy if she chooses. To declare pregnancy, the student must request a copy of the School's Declaration of Pregnancy form from the Program Director. In addition to completing the School's form, the student must complete the Cleveland Clinic Radiation Safety Program's Declaration of Pregnancy form to obtain a fetal dosimeter. The Cleveland Clinic Radiation Safety Program's form requires an estimated date of conception. The estimated date of conception will be necessary in the determination of the accumulated dose the embryo/fetus may have received prior to the declaration of pregnancy.

The program is not required to restrict the dose to the embryo/fetus to 5 mSv until a written declaration of pregnancy is made. It should also be noted that the declaration can be revoked by the pregnant student at any time. The revoking of the declaration of pregnancy must also be in writing. To revoke the declaration, students may request a Withdrawal of Declaration of Pregnancy form from the Program Director.

The accumulated dose the embryo/fetus may have received prior to the declaration of pregnancy will have to be subtracted from 5 mSv to determine the dose the embryo/fetus will be allowed to receive during the remainder of the pregnancy. If the dose is determined to be 4.5 mSv or greater by the time the declaration is made, it is the program's/hospital's responsibility to ensure that the embryo/fetus receives only 0.5 mSv during the remainder of the pregnancy.

B. Calculations of Exposure

The 5 mSv dose limit shall be the sum of the deep-dose equivalent to the declared pregnant worker from external sources of radiation and the dose from radionuclides in the embryo/fetus and/or pregnant student. Radionuclides that may have been administered to the worker for diagnostic or therapeutic procedures should not be considered.

It is the responsibility of the designated Radiation Safety Officers to implement this requirement.

Pregnancy Accommodations

Whether or not a student declares a pregnancy, students are entitled to request pregnancy accommodation. Information about requesting accommodation can be found in the School Catalog.

Pregnancy Information

When at the clinical site, all students must adhere to radiation safety practices. Since exposure to radiation may affect a developing fetus, it is in the best interest of the pregnant student to

report the pregnancy to have the radiation exposure monitored accurately. However, the student is under no obligation to do so. If the student chooses to do so, she should notify the Program Director in writing.

It is the responsibility of the radiographic technology program that no program objective should be sacrificed however, consideration will be given to a change in the clinical rotation assignments due to pregnancy. It is advised that, based upon the knowledge that a fetus is particularly sensitive, the student should decide whether the added risk of working with radiation is sufficiently low. The student is advised that the American College of Radiology recommends that no consideration be given for termination of pregnancy if the fetus exposure is less than 100 mSv. This amount of radiation to a technologist/student is unheard of in routine diagnostic radiology. The recommendation applies to a patient who has received repeat x-ray examinations directly to the abdomen during pregnancy.

As part of the initial information provided to new students, the National Council on Radiation Protection and Measurements Report No.116 recommends that the whole pregnancy exposure be limited to less than 5 mSv. If, during the course, the student wishes further information or a review of the known effects of radiation on the unborn, then this information may be obtained by contacting the program's radiation safety officer.

The student should notify her physician that she is enrolled in a radiography program and obtain a statement of recommendation for continuance in the program.

Information for the Student Radiation Worker

By definition a toxic substance is one which is able to cause some harm to humans. The factors which influence the harm depend upon the type of toxic substance, the dose given to the human and the susceptibility of the human. In general, humans are at reduced risk from toxic substances when the cells are either not dividing or dividing quite slowly as in the case of the oldest members of society. On the other hand, it is generally agreed that the fetus has a greater sensitivity to any toxic substance since its cells are dividing at an incredibly rapid rate. Even an individual that is four or five years old has a markedly reduced rate of growth when compared to the fetus. For this reason, radiation protection has always been directed towards the fetus and only recently have the other toxic substances in our environment been identified by the general population as being hazardous to the fetus. The NRC has reviewed the available scientific literature and has concluded that the 5 mSv limit specified in 10 CFR 20.1208 provides an adequate margin of protection for the embryo/fetus. This dose limit reflects the desire to total lifetime risk of leukemia and other cancers associated with radiation exposure during pregnancy.

Personnel Monitoring

The declared pregnant student that is likely to receive, from external sources, a deep dose equivalent in excess of 1 mSv must wear a second personnel monitoring device at waist level behind the lead apron, if applicable, to record the most representative exposure to the embryo/fetus. Since it is a requirement of the School of Health Professions for students to wear a dosimeter at the collar level, a second personnel monitoring device must be issued to be worn at waist level for the declared pregnant student. In this way the most representative exposure to the embryo/fetus can be recorded while maintaining a consistency with previous exposure records.

Student Responsibilities

Once the declaration of pregnancy has been made in writing, a review of the individual's exposure history must be made. If it is determined to be unlikely that the embryo/fetus will receive in excess of 5 mSv during the entire gestation period, reassignment or restrictions may not be necessary. However, if it is determined that the dose to the embryo/fetuses is likely to exceed 5 mSv consideration may be given to reassignment of the declared pregnant student to an area of little or no radiation exposure or to placing certain duty restrictions on the individual to limit the exposure to the embryo/fetus. Clinical time missed during the clinical leave of absence must be completed prior to graduation.

The pregnant radiography student has the following options available:

- Continue in the Radiologic Technology Program as scheduled with no change in clinical rotation.
- Request pregnancy accommodation.
- The student can rescind the declaration of pregnancy at any time in writing.

Duties that may be considered for restriction because they represent a higher probability for the embryo/fetus to exceed 5 mSv are as follows:

- Radiology: General, Fluoroscopy, Portables, Specials, and CT: No restrictions necessary.
- Surgery: No restrictions necessary.
- Cath Lab: Wrap-around aprons with 0.5mm of lead or equivalent should be worn.
- Nuclear Medicine: The declared pregnant student should be restricted from involvement in I-31 therapies for the treatment of hyperthyroidism or thyroid carcinoma.
- Radiation Therapy: The declared pregnant student should be restricted from handling brachytherapy source.

Education

Educational material is made available for the pregnant student to review. Examples of suggested publications are:

1. NRC Regulatory Guide 8.13
2. NCRP Report No.116

The pregnant student should already have reviewed the most recent NRC Regulatory Guide, "Instruction Concerning Prenatal Radiation Exposure" and the facility's policy for a pregnant radiation student during her initial training. Upon declaration, both the most recent Regulatory Guide and the program's pregnancy requirements should be presented to the pregnant student for review. All records of exposure to the embryo/fetus and the written declaration of pregnancy will be maintained on file. During radiography program orientation and also upon declaration of pregnancy, there will be documentation of the student's review of NRC Regulatory Guide 8.13, NCRP Report No.116, and the program's requirements for the declared pregnant radiography student.

RECORD OF CURRICULUM

The curriculum of the Mercy Radiologic Technology Program is structured to allow content to be delivered in a way that builds upon itself throughout the entire program. Before applying for the

program, applicants are required to complete three prerequisite courses that will serve as the foundation for the program. Those non-core courses are Anatomy & Physiology I, Anatomy & Physiology II, and Medical Terminology.

The program's curriculum is based on the American Society of Radiologic Technologists (ASRT) radiography curriculum. The Program Director is responsible for maintaining a complete copy of the curriculum to include:

1. Description of all courses
2. Course outlines for all courses
3. Course objectives for all courses

TEXTBOOK & EDUCATIONAL SUPPLIES

The program textbook list is provided to students prior to the start of the program each academic year. Any updates or revisions to the textbook list will be communicated as needed. All assigned textbooks are required, and students must purchase the current edition, as technology in the healthcare field changes rapidly. Required textbooks must be obtained no later than the first week of class. Textbooks may be purchased through college bookstores, online retailers, or directly from the publisher.

The program utilizes a learning management system (LMS) to support student learning. The LMS provides access to online learning resources and course-related information throughout the duration of the program. Students are required to maintain an active email address and to check their email regularly for important school communications. Registry Review courses use the Clover Learning Registry Review Program.