

**Marquette General Health System
Medical Imaging Sciences - Radiography**

Clinical Practicum Portfolio

The Medical Imaging Sciences – Radiography clinical curriculum is composed of five competency-based semester courses, which progress in complexity and requirements. Student clinical performance will be documented by completion of a Clinical Practicum Portfolio each semester. The Clinical Portfolio is a flexible document designed to emphasize active student involvement. In addition to the demonstration of clinical competency, a clinical portfolio provides a student with the responsibility and options to play an active role in their clinical performance and grade. A Portfolio will reflect a student’s strengths and weaknesses and promote assertiveness for each individual. A student will demonstrate progress appropriate for each semester clinical practicum and their advancement in the program by a satisfactory clinical portfolio grade of 83% or higher.

A student must complete each semester practicum in sequence to advance to the next. A student may **not** retake a semester practicum course out of sequence.

Placement of Students in the Clinical Practicum

Students will be scheduled and rotated through five clinical affiliations throughout their clinical practicum experience. (Four mandatory and one elective) Students are responsible for personal travel and all costs related to the clinical sites. Clinical affiliation assignments are made by the Clinical Coordinator based upon, but not limited to:

The clinical education setting student capacity, as determined by the policies of the Joint Review Committee on Education in Radiologic Technology (JRCERT).

The needs and qualities of the students.

Students receive their mandatory clinical rotation schedules for semesters one and two during orientation week.

Students will complete and submit to the Clinical Educational Coordinator a Clinical Affiliation Preference Form by the beginning of the second semester. Semesters three through five elective clinical sites will be determined by the end of the second semester.

Clinical Practicum Objectives:

The student will observe, practice, and demonstrate the skills of a diagnostic imager by:

1. Evaluating patient request forms and following the proper patient identification policies of the diagnostic imaging department;
2. Preparing the radiographic room appropriately;
3. Supporting, assisting, evaluating, questioning, observing, informing the patient;
4. Accurately positioning the patient for the procedure;
5. Adaptation of procedures to meet age-specific, disease-specific, and cultural needs of the patient;
6. Practicing appropriate radiation protection;
7. Using equipment and technique charts correctly;
8. Processing and evaluating diagnostic images;
9. Completion of exam including: room clean-up, patient transfer information, and completion of all necessary patient documentation.

The student will observe, practice, and demonstrate learning and growth in professional behaviors by:

1. Demonstrating an ability to work with others;
2. Communicating an empathetic attitude toward the patient;
3. Accepting constructive criticism as a helpful contribution toward their improvement;
4. Demonstrating an effective use of time by working systematically and efficiently;
5. Adhering to hospital and program policies;
6. Demonstrating ethical conduct and respecting the patient's values and rights, particularly confidentiality;
7. Demonstrating dependability and responsibility in clinical assignments;
8. Demonstrating initiative in clinical responsibilities;
9. Presenting an appearance and demeanor that communicates professionalism and competence.

Upon completion of the program, the student will:

1. Practice oral, written, and electronic medical communication;
2. Demonstrate knowledge of human anatomy, physiology, and pathology;
3. Anticipate and provide patient care, safety, and comfort;
4. Operate radiographic instrumentation and equipment;
5. Select proper exposure factors;
6. Perform radiographic procedures on a diverse patient population;
7. Practice radiation protection for the patient, self, and others;
8. Process and quality assess diagnostic images.

Performance Expectations:

The mission of our program is to prepare the student to be a caring person who assumes responsibility and accountability for their actions. Students are required to exhibit professional and ethical behavior at all times and will adhere to student policy # 24 Standards of Conduct while in the program.

Compliance of all student policies is required in the clinical practicum. (ie. Attendance, uniforms, personal appearance, ID badges, radiation monitors, clinical practicum portfolio, laptop or iphone, etc.)

Structure of Clinical Practicum:

A student's clinical practicum should reflect the progression of required competencies from a basic level to an advanced level over the entire program length. A learning progression of cognitive, psychomotor, and affective aspects of the curriculum are integrated throughout.

Affective Domain

Students will appreciate and value the imaging department as an essential, professional discipline of the healthcare system in the delivery of patient care services.

Cognitive Domain

Students will recognize and describe principles of effective and safe radiographic practice as related to general, fluoroscopic, mobile, and ancillary imaging.

Psychomotor

Students, with appropriate clinical supervision will observe, assist, and/or perform effectively and efficiently all assigned procedures in a scheduled clinical rotation.

Clinical grading is based upon a student's progress toward meeting specific clinical education objectives identified and outcome development.

Learning Progression:

1. Didactic Instruction
2. Simulated Laboratory Experience
3. Laboratory Competency
4. Observation in the Clinical Assignment
5. Transition from a passive observation to active participation by assisting under direct supervision by a qualified radiographer
6. Competency evaluation in the clinical setting
7. Performance with indirect supervision by a qualified radiographer
8. Completion of program requirements

Clinical Assessment Criteria:

The evaluation of each semester and Portfolio grade will be based upon specific identified criteria and a student's outcome development of that criterion. **A student is responsible to complete their own Portfolio and submit it to faculty the last day of each semester.**

A student Clinical Practicum Portfolio will include:

Criteria	Components	Entry	Points
General Orientation	Required		N/A
A. Rotation Participation Tally Entries	16	EE - S	100
B. Attendance Record	16 weeks	EE -S	100
C. Affective/Professional Performance Evaluations	8	EE	100
D. Student Self Assessments	1	HW - S	100
E. Radiographic Procedure Criteria	Course Specific	HW - S	100
F. Clinical Competencies	Required	EE	N/A
G. Image Analyses	20+	EE	100
H. Student Repeat Analysis	Semester Specific	HW - S	100
I. Clinical Practicum Task Inventory	Semester Specific	HW	100
J. Critical Thinking Skills	Semester Specific	HW - S	100
K. Awards/Demerits	100 % Start	HW	100
L. Post-Primary Rotation Evaluations	Semester Specific	HW	Varies
Total:			

EE – Electronic Entry

HW – Hand Written

S - Entered by Student

General Orientation:

All students complete an orientation to become familiar with general patient care and safety equipment or procedures prior to the first week of class. Orientation includes: diagnostic imaging as a profession, continuance of education, medial ethics, diversity in the healthcare population, body mechanics and patient transfers, infection control, respiratory care, vital signs, radiation protection, interdepartmental communications, institution safety procedures, and program operations.

Clinical Practicum Criteria Descriptions

Clinical Supervision:

To assure patient safety and appropriate educational practices all students are under a qualified practitioner's supervision. Depending upon the student's level of education and competency, a student will be considered under **direct** or **indirect** supervision.

Direct Supervision:

Supervision of a student in the presence of a qualified practitioner, who reviews the procedure, evaluates the condition of the patient, and reviews and approves the procedure and image(s). A student must be under the **direct** supervision of a qualified practitioner until clinical competency is achieved.

A student must be under **direct** supervision during all repeated images.

Indirect Supervision:

Supervision of a student by a qualified practitioner in the immediately available area (area adjacent to the room where the procedure is being performed) regardless of the level of student achievement.

All students are under indirect supervision in the clinical practicum.

A student who has completed the section of Radiographic Procedures and a corresponding clinical competency for a specific procedure with a passing score may complete this procedure from that point on under **indirect** supervision.

Availability of a qualified practitioner applies to all areas where ionizing radiation equipment is in use. Therefore, students are not permitted to do mobile radiography without a qualified practitioner regardless of level of competency.

A. Rotation Participation Tally Entries:

All student activities in the clinical practicum are documented as observation, participation, completion, or repeat.

Observation:

Passive participation with direct supervision during a clinical rotation.

Participation:

Active participation with direct supervision during a clinical rotation.

Completion:

Active participation and completion of an exam with direct supervision, or active participation and completion of an exam with indirect supervision after competency completion.

Repeat:

Active participation and completion of an exam with direct supervision during the repeat of an unsatisfactory image.

A student will complete the documentation of clinical rotation participation through electronic entry by the end of every scheduled clinical rotation.

Rotation Participation point system:

16 Week Procedure Totals:

First Semester	Second Semester	Remaining Semesters	Points
200 >	250 >	300 >	20
250 >	300 >	350 >	30
300 >	350 >	400 >	50

Rotation Participation Grading:

All entries completed	50
Tally/Total	50-20
Total	100 Points

Off Hours Clinical Experience Assessment:

A student will document clinical practicum experience on off-hours by completion of an Off Hours Clinical Experience Assessment entry. Off hours are considered an educational experience for the student while completing make-up time. This assessment will be calculated in with the rotation participation tallies.

B. Attendance Record:

Student clinical attendance is recorded by an electronic time sheet system. It is the student's responsibility to document attendance by signing into the Data Management Program, entering student ID and password, opening time clock, selecting a time clock location, entering their student ID, and adding their in punch. The ending of a clinical rotation adds an out punch. All unscheduled leave times, off-hours (make-up times), and additional personal leave hours will be submitted by the student in paper form and reconciled by the educational coordinator. Correct usage of the attendance record system will total each week's time at forty (40) hours.

Weekly Time Card Grading:

<input type="checkbox"/> Data entry on time	100 Points
<input type="checkbox"/> Reconciled time card (forgotten entry reconciliation facilitated by student)	-10 Points
<input type="checkbox"/> Un-reconciled time card (forgotten entry reconciliation facilitated by educational coordinator)	-25 Points

C. Affective/Professional Performance Evaluation:

Assessment of the affective or professional objectives in the clinical practicum is completed by observation of behaviors that are indicative of professionalism such as: willingness to work, thoroughness, initiative, reliability, cooperation, emotional control, judgment, communication, technical skill, internalizing, appearance, and attendance. Clinical instructors and appropriate qualified clinical practitioners involved with the student for **sixteen hours** or more will complete affective assessments for each clinical rotation.

A student's performance will be assessed through eight (8) separate evaluations (1 evaluation per each 2-week rotation). Each evaluation is worth a total of 46 points. An average of the total points earned will be the student's grade.

D. Student Self Assessments:

A student must complete a self-assessment for each semester clinical practicum. The goal of this assessment is to enable the student to be aware of and responsible for their progression through the clinical practicum. A student will assess their performance with equipment, procedures, and general participation. A student will formulate a plan of action for improvement when a challenge presents itself.

A student's grade for their self-assessment will be based upon the completion and insightfulness of the following criteria:

Completion of all sections	0-25 points
Demonstration of self-awareness	0-25 points
Integration of didactic into clinical	0-25 points
Plan of Action for improvement	0-25 points
Total:	100 points

E. Radiographic Procedure Criteria:

A student will complete all assigned radiographic procedure criteria (gray) sheets as part of RAD 264 and 267 didactic coursework in preparation for clinical lab simulation testing. All criteria sheets will then be placed in a student's clinical portfolio for reference and must accompany the student in the clinical practicum at all times. **A student is responsible to provide the appropriate criteria sheet to qualified personnel prior to the completion of a competency examination.**

A student's points earned will depend upon each didactic course and its corresponding positions/projections and the thoroughness of the student in completing the assignment. A student may earn up to 100 points total for accurate completion each semester.

F. Clinical Competency:

Clinical competency is a standardized method of measuring a student's ability to optimally produce a diagnostic radiograph for a specific anatomical part utilizing proper positioning, patient care, anatomy, technique, radiation protection, and equipment manipulation.

A student is responsible to determine when they are ready to complete a clinical competency for a given procedure. A student is required to complete a specific number of procedures before completing a competency. The electronic procedures sheet will prompt the student as to the number of participations to be completed prior to competency testing. The student should exercise good judgment before attempting a clinical competency.

Clinical Competencies are divided into 2 categories: Equipment and Procedural.

Equipment

A student must successfully complete an orientation lecture and lab addressing radiographic equipment prior to equipment competency. Equipment Orientation will be divided into Group A and Group B presentations, depending upon the student's clinical rotation schedule. Group A will complete an orientation of Rm 1, Rm 2, Mobiles, Emergency Department, Operating Room, and Computed Tomography. Group B will complete an orientation of Rm 3, Orthopaedic Surgery Associates, Marquette Radiology Associates, MGHS Clinic, and Bell Health. Groups A and B will switch orientations in the second semester.

An equipment competency will be completed for each radiographic unit in the diagnostic imaging department (including mobile and C-arm units). An equipment competency is a pass/fail competency. A student must complete all equipment competencies prior to completion of a radiographic, fluoroscopic, traumatic, or mobile procedural competency. Equipment competencies will correspond with Group A or Group B equipment lists and must be completed by the end of each semester.

Procedural

A student must successfully complete all didactic coursework and lab instruction addressing each procedure prior to attempting a competency exam. Procedural competency examinations include patient care, patient positioning, equipment manipulation for procedure, radiation protection, and image analysis.

The following steps are taken in preparation for a student to achieve competency:

1. RAD 264 and 267 Radiographic Procedures are taught by a designated faculty member in the didactic setting, utilizing current texts and audiovisual aids.
2. Students will complete the radiographic procedure criteria sheets for the specific area of instruction. The criteria sheets will then be graded and returned to the student for reference.
3. A group lab demonstration is performed by the Radiographic Procedures instructor in a designated radiographic room at an assigned time each week. (Students are responsible for any missed information in a lab).
4. Students then complete positioning lab exercises on one another or phantoms in preparation for simulation testing.
5. The student, at a designated time will perform specific radiographic procedures in a simulated situation in a designated radiographic room while the instructor evaluates the student's competency according to clinical competency evaluation criteria. This grade will be included in the RAD 264 and 267 Radiographic procedures courses.
6. If the student should fail the simulation test, the student then receives remedial instruction followed by re-examination in that specific procedure the following week. If a student fails the re-examination simulation they are reviewed for continuance in the program.
7. Once a student has passed a particular simulation testing, they may then competency test in a real-time patient care setting. The student must provide the corresponding radiographic procedure criteria sheets for the anatomical area of interest to the test evaluator prior to competency testing. The evaluator will use this criterion for evaluation of the student's competency.
8. If a student should fail the competency test, the student then receives remedial instruction followed by re-examination in that specific procedure the following week. If a student fails the re-examination competency test they are reviewed for continuance in the program.
9. Passing of competencies allows a student to advance forward to program completion.

Simulation Testing:

Definition: Completion of a clinical simulation of a radiographic procedure in its entirety for a didactic instructor as a part of radiographic procedures course lab, by request of the student for a competency, or for re-evaluation at the request of a qualified clinical practitioner at anytime during the program.

A simulation for a competency is **only** allowed when the clinical coordinator has determined that the procedure is infrequently done or in the last semester at the

discretion of the clinical coordinator. Simulation for competencies will not exceed competency requirement numbers.

Clinical Competency Testing:

Definition: Completion of a procedure under the direct supervision/evaluation of qualified personnel for proficiency after completion of corresponding didactic and lab instruction and passing of simulation testing.

Clinical Competency tests are broken into twenty-two (22) designated outcomes demonstrating cognitive and psychomotor skills. All sections of a competency must be completed. A student must achieve a 93/100 point score to pass a competency evaluation.

Anatomical Lead Marker:

It is the student's responsibility to be familiar with the equipment and collimation to achieve the visualization of the anatomical marker on each image. Therefore, the absence of a marker due to collimation alignment or image reformatting will not be granted an exception when a student's marker is not demonstrated on a radiographic image.

The entire "L" or "R" must be present on the radiographic image when sent to PACS. If the entire "L" or "R" is not visible in PACS the competency is denied. There are no exceptions to this standard.

Removal of Competency Status:

Competency denotes that a student is competent to complete a procedure independently on the average patient. A student who has passed a competency on a procedure and then does not demonstrate the ability and knowledge to independently complete the procedure will have the competency removed. In the event a competency is removed, the student will be required to remediate the procedure with program faculty before attempting a retake.

Remediation:

All competencies/simulations denied or removed will be reviewed with faculty for performance improvement. It is the student's responsibility to review an unacceptable competency/simulation with a faculty member within 3 days of receipt. After such time a student may then re-try the competency/simulation. This usually places the re-try on a time schedule of the following week. (A student may **not** complete a re-try until remediation has been completed).

Competency Requirements:

A student must demonstrate competence in all 31 procedures identified as Mandatory (M). Mandatory competency procedures should be performed on patients but eight (8) mandatory competencies may be addressed through simulation with a didactic instructor. A student must demonstrate competence in 15 of the 35 Elective (E) procedures. Elective competency procedures should be performed on patients but may be simulated with a didactic instructor. A student must select one elective procedure from the head section, either Upper GI or Barium Enema, and one additional elective from the fluoroscopy section.

It is the student's responsibility to complete all Mandatory and Elective competency totals to program complete.

In the first semester of clinical practicum a student should set a goal of all equipment competencies and the following procedural competencies: chest, abdomen, one (1) extremity. It is recommended that a student then pace themselves in competency completion and acquire at least a minimum of twelve (12) competencies per semester. Student competency totals will be evaluated at completion of each semester. Mandatory and Elective competencies will **not** be used for clinical portfolio grading purposes. Mandatory and Elective competency totals will be achieved by the student for program completion. Verification of completion will remain as part of a student's permanent record. **A student who does not complete all required program competencies by the end of the program will not graduate.**

Honors Competencies (H): All students completing the competencies listed as Honor Competencies will receive one (1) hour of personal leave time for each Honors Competency. Honors Competencies include: Mammography, CT, MRI, Vascular Imaging, and Bone Densitometry procedures.

G. Student Image Analysis:

Medical images are evaluated for positioning and technical accuracy by a consistent method to ensure that all aspects of the image are considered. Student image assessments will be completed on the image analysis form. A student must complete 20 separate image analyses with a diagnostic imager per semester. Analyses must be from a varied selection of procedures participated in or completed by the student during the semester. **In addition a student must complete an image analysis form when a repeat exam is necessary.**

20+ separate image analyses	100 points
< 20 analyses - 5 point deduction for each missing analysis	

H. Student Repeat Analysis:

A student must submit a repeat analysis to summarize the clinical experience in terms of repeated procedures, common errors, and lessons learned in the clinical practicum during the semester. This assignment will be typed and include a graph representing the student's repeat trends.

Summary of repeats	75 points
Trend Graph	25 point
Total	100 points

I. Clinical Practicum Task Inventory:

A student will complete semester specific clinical tasks to demonstrate their advancement in diagnostic imaging procedural skills. Each semester specific list of skills will be observed and verified by a qualified practitioner. It is the student's responsibility to prepare and verify each skill when ready.

All skills verified	100 points
An incomplete list of skills	0 points

J. Semester Critical Thinking Skills Question:

A student will complete two (2), 5-section critical thinking skills questions per semester posted in the Document Section on Trajectsys. A student will receive an invitation in their email to

access Trajectsys. Each semester's questions will be generated from the didactic courses completed and demonstrate integration of course materials into the clinical practicum. A student is responsible to complete all sections of each question and submit as part of their portfolio.

Critical Thinking Skills grading:

Five (5) sub-sections – 10 points each.

Total 100 points

K. Semester Awards/Demerits:

Clinical awards or demerits are a numerical documentation of satisfactory/unsatisfactory professional performance in the clinical practicum, which will affect a student's clinical grade. The Program Director or faculty member assigns awards/demerits to a student with input from the qualified imaging personnel.

Start Total:

100 Points

Clinical Merit Award

Students may receive a clinical standards salute from faculty and staff radiographers. A student who receives a salute shall receive 5 bonus points per achievement to be added to their merit points.

Demerits will be assigned for:

Demonstration of unprofessional behavior, policy violations, and unsafe radiographic practices such as:

Improper reporting on or off a clinical rotation.	10
Absence from a clinical rotation without permission.	10
Refusal to carry out assignments or reasonable instructions	10
Non-productive use of free time.	10
Violation of dress code.	5
Non-compliance of direct supervision during a repeat exam	20
Non-compliance in usage of an ID marker or labeling films.	10
Non-compliance of pre/post physical facility readiness	5
Failure to practice radiation protection for patient, staff, self	10
Failure to finish exam in entirety.	20
Loss of emotional stability	15
Use of profanity	10
Disrespectful to diagnostic imaging and Health System staff.	10
Failure to follow ethical standards/mandatory clinical rules	10
Receiving/making personal phone calls in the clinical practicum	10
Congregating in patient care areas	10
Bringing food or drink into the diagnostic imaging department	10
Participating in personal conversations in the presence of a patient	10

This is only a partial list. Each time a student receives a demerit the student will also be counseled using a Counseling Form or Corrective Action Form depending on the severity or frequency of the infraction.

L. Post-Primary Certification Observations:

Students will complete clinical instruction in post-primary certification imaging modalities either as an inclusion to the regular clinical rotation schedule or as an ancillary rotation. All post-primary rotations include a separate syllabus containing objectives and assignments. Clinical

preceptors will evaluate students in all post-primary rotations. Student evaluations will be included as a clinical portfolio grade only in designated rotations per semester.

Post-Primary Grading:

Regular clinical rotations: 0-100 points (schedule dependent)
CT, MRI, IR, Mamm, Bone Densitometry

Ancillary clinical rotations: Grade included in RAD 367
US, NM-PET, RO, CC-Echo

Clinical Practicum Final Grade:

Due to the high standards required to deliver quality patient care, students must achieve a higher level of excellence in their clinical practicum in comparison to the didactic portion of the program. Therefore the minimum acceptable grade of 83% must be achieved each semester.

A student's grade will be a combined achievement of all portfolio criteria. Each section will be evaluated separately using a specific score. All sections are then combined to calculate a final semester grade. Each semester clinical portfolio grade is displayed as a separate course grade on a student's transcript.

Grading Scale:

93 – 100	A
90 – 92	A-
87 – 89	B+
83 – 86	B

Clinical Attendance:

Clinical Rotation Schedule:

Semester 1	R and F	SS
Semester 2	R and F	SS
Semester 3	M,T,W and F	SS
Semester 4	M,T,W and F	SS
Semester 5	M,T,W and F	SS

A separate clinical rotation schedule has rotation attendance times listed.

All student policies on attendance will be followed in the clinical practicum. Please refer to the student policy manual. A student absence is defined as not being present for an assigned clinical educational experience. A student is to inform program faculty and clinical site of their absence no later than thirty (30) minutes prior to the scheduled time of attendance. A student will remain in their assigned clinic rotation until scheduled time has been completed. Unauthorized early departure will be counseled, given a 10-point demerit, and deducted from a student's personal leave time.

Punctuality:

A student must arrive on time for clinical assignments. Tardiness will be deducted from a student's personal leave time.

Lunch/Dinner Breaks:

Student lunch breaks are thirty (30) minutes. Lunch breaks will be assigned at the clinical site by the clinical instructor or supervising radiographer to coincide with non-patient procedure times.

If a student leaves their clinical site for lunch, their departure and return time must be documented by electronic entries. If a student returns late from lunch, it is considered a tardy and will be deducted from the student's personal leave time.

Clinical Portfolio Notebook

All students will have their clinical portfolio notebooks with them in the clinical practicum. A student who does not have their portfolio will leave the clinical practicum, use personal leave time, and return with the notebook to participate in the scheduled clinical rotation.

Electronic Data Management Policies:

Student passwords, like all electronic passwords are confidential. Sharing of your password or punching another student in using their password is considered grounds for dismissal.

Student clinical attendance data may only be entered into the data management program through designated computer IP addresses corresponding with affiliated clinical sites.

Student performance tally entries, image analyses, affective/professional performance evaluations, and clinical competencies may be entered by lap-top, iphone, or smart phone by instructors or students at all clinical sites.

Should a student use an iphone or smart phone for data management the cell phone function must be turned off during their clinical rotation. NO personal cell phone calls or text messages are allowed during clinical rotations. Cell phone calls or text messages may be made only during breaks and lunch and in designated areas of the clinical site.

Violation of the data management policies will result in disciplinary action.

Clinical Practicum Evaluation:

All students will complete an electronic clinical practicum evaluation as a part of the clinical portfolio each semester.

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