



RAD-665: RADIOLOGY INTERNSHIP III

Effective Term

Fall 2024

BOT Approval Date

12/14/2023

Discipline

RAD - Radiologic Technology

Course Number

665

Course Title

Radiology Internship III

Short Title

RAD Internship III

Credit Status (CB 04)

D - Credit - Degree applicable

Units**Lab Units**

12.50

Total Units

12.50

Hours**Lab Contact Hours**

600-675

Out of Class Hours Lab

0.00

Total Contact Hours

600 - 675

Total Out of Class Hours

0 - 0

Total Student Learning Hours

600 - 675

Is this an existing Extensive Lab?

No

Do you want to propose this for Extensive Lab?

No

Distance Education

No

Catalog Description

This course is the final semester of the internship phase of the Radiologic Technology Program. Students are assigned to selected clinical education centers which provide supervised clinical training in the Department of Imaging at affiliated hospitals. Internship consists of 40 hours per week for the semester. Clinical experiences are designed to provide assessment of selected competency



performance of radiologic imaging exams including surgical procedures using C-arm equipment, pediatric, and trauma exams. This course allows the students to improve their skills in patient care and imaging procedures to gain confidence and competence for employment after graduation. Rotations through other imaging modalities are included.

Attach Supporting Documents

ASRT 2022 radiography curriculum guide.pdf
CA Title 17 Code Clinical Hours.pdf
JRCERT 2021 Radiography Standards pg 28.pdf

Attach Supporting Documents

LMI.pdf

Requisites**Pre or corequisite(s)****Prerequisite or corequisite(s) (must be taken simultaneously if not taken before)**

RAD-655 (with a grade of C or better)

and RAD-660 (with a grade of C or better).

Codes**TOP Code (CB 03)**

1225.00* - *Radiologic Technology

CIP Code

51.0911 - Radiologic Technology/Science - Radiographer.

Student Accountability Model (SAM) Priority Code (CB 09)

C - Clearly Occupational

Noncredit Category (CB 22)

Y - Credit Course

Repeatability Code

No

Grading Option

Letter grade OR P/NP

Minimum Qualifications

Minimum Qualifications	And/Or
Radiological Technology	End

CSU Area(s)**IGETC Area(s)****Learning Objectives****Learning Objectives**

Learning Objective
1. Perform radiographic procedures and critique routine radiographic images of the chest, abdomen, and extremities with indirect supervision.
2. Perform mobile radiographic procedures of the chest, abdomen, and extremities under direct supervision.
3. Perform radiographic procedures and critique radiographic images of the spine and skull along with the digestive and urinary systems with indirect supervision.

4. Prepare and assist in radiographic procedures that require fluoroscopy and other special imaging equipment with direct supervision.
5. Participate in surgical fluoroscopic procedures using C-arm equipment with direct supervision.
6. Perform pediatric and trauma exams under direct supervision.
7. Assess patient care techniques for radiographic exams to ensure inclusivity and diversity, prioritizing the unique needs and backgrounds of individuals, including those of different ages, gender identities, abilities, special requirements, ethnicities, and cultural backgrounds.
8. Formulate technical factors to produce diagnostic images with the lowest radiation exposures possible to maintain image quality.
9. Analyze and apply the appropriate radiation protection technique for the patient and personnel.
10. Evaluate the patient's status and condition before, during, and following the radiographic procedure to demonstrate competency in assessment skills
11. Correct for image artifacts on radiographs if present.
12. Critique and correct unacceptable radiographic images under direct supervision.
13. Support the concepts of team practice that focus on organizational theories, roles of team members, and conflict resolution.
14. Integrate the use of appropriate and effective written, verbal, and nonverbal communication with patients, the public, and members of the healthcare team in the clinical setting.
15. Value patient confidentiality standards.
16. Support the American Society of Radiologic Technologist Code of Ethics

Learning Outcome Information

Course Learning Outcomes

Learning Outcome

1. Students will successfully complete a competency evaluation on a trauma, upper extremity exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
2. Students will successfully complete a competency evaluation on a surgical, orthopedic exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
3. Students will successfully complete a competency evaluation on a routine pediatric chest exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
4. Students will successfully complete a competency evaluation on a routine pediatric abdomen exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.

Program Learning Outcomes

Learning Outcome

- Apply positioning skills in all required radiographic examinations.
- Select appropriate technical factors for radiographic examinations.
- Practice radiation protection for all radiographic examinations.
- Employ proper patient care techniques and effectively provide care for patients from diverse groups/populations.
- Demonstrate oral and written communication skills.
- Relate to and anticipate the needs of the doctors and technologists.
- Adjust to changes, situations, patient conditions, updated evidence-based practice, and deviation from the normal routine.
- Demonstrate knowledge of ethical requirements for an entry level radiographer along with ethical practices in a healthcare setting.
- Understand professional obligations upon gaining the ARRT status.

Institutional Learning Outcomes

Aesthetic Awareness: The student will identify and evaluate how aesthetic expression leads to an appreciation of social and cultural context as well as the values of art and nature.

Communication: The student will effectively express and exchange ideas through listening, speaking, reading, writing, visual works, and other modes of interpersonal expression.

Critical Thinking: The student will analyze problems, gather and synthesize relevant information, evaluate ideas, information, and evaluate alternative points of view to create, innovate and implement effective solutions.

Cultural Awareness and Humility: The student will demonstrate knowledge of and sensitivity toward individuals of diverse ethnicity, age, gender, sexual orientation, and religious affiliations, as well as toward those individuals with diverse abilities and socio-economic classes to respectfully interact with individuals of diverse perspectives, beliefs and values while being mindful of the limitation of their own cultural frameworks.

Information and Technology Literacy: The student will access, interpret, evaluate, and apply relevant information sources and digital media effectively, and in an ethical and legal manner.

Scientific Awareness: The student will apply the scientific method of inquiry to assess potential solutions for real-life challenges by employing science-based knowledge and methodologies in daily life.

Social Awareness: The student will recognize and analyze the interconnectedness of global, national, and local concerns, analyzing cultural, political, social, and environmental issues from multiple perspectives and appreciate similarities and differences among cultures.

Civic

Personal

and Professional Responsibility

Content

Course Lab Content

1. Radiographic procedures to be performed in clinical practice under direct and indirect supervision
 - a. Upper/lower extremities routine procedures under indirect supervision
 - i. Shoulder girdle
 - ii. Humerus
 - iii. Elbow
 - iv. Forearm
 - v. Wrist
 - vi. Hand
 - vii. Fingers
 - viii. Hip
 - ix. Pelvis
 - x. Femur
 - xi. Knee
 - xii. Lower leg
 - xiii. Ankle
 - xiv. Foot
 - xv. Toes
 - b. Chest routine under indirect supervision
 - i. Lungs
 - ii. Ribs
 - iii. Sternum
 - c. Abdomen routine under indirect supervision
 - i. Supine
 - ii. Upright
 - iii. Decubitus
 - d. Mobile radiographic procedures under direct supervision
 - i. Chest
 - ii. Abdomen
 - iii. Upper extremities
 - iv. Lower extremities
 - e. Spine procedures under indirect supervision
 - i. Cervical
 - ii. Thoracic
 - iii. Lumbar
 - iv. Sacrum
 - v. Coccyx
 - f. Skull procedures under indirect supervision
 - i. Cranium
 - ii. Facial bones

- iii. Sinuses
- iv. Mandible
- g. Digestive system procedures under indirect supervision
 - i. Esophagram
 - ii. Upper gastrointestinal
 - iii. Lower gastrointestinal
 - iv. Small bowel
- h. Urinary system under indirect supervision
 - i. Cystogram
 - ii. Voiding cystourethrogram
 - iii. Retrograde urography
 - iv. Intravenous pyelogram
- i. C-arm in surgery procedures under direct supervision
 - i. Orthopedic
 - ii. Non-orthopedic
- j. Special radiographic procedures under direct supervision
 - i. Hysterosalpingograms
 - ii. Arthrography
 - iii. Myelography
 - iv. Endoscopic retrograde cholangiopancreatography
- k. Pediatric radiography under direct supervision
 - i. Routine adjustments
 - ii. Grid use
 - iii. Gonadal shielding considerations
 - iv. Exam prep adjustments
 - v. Patient communication
 - vi. Parent communication
 - vii. Immobilization devices
- l. Trauma radiography under direct supervision
 - i. Shoulder
 - 1. Scapular "Y"
 - 2. Transthoracic
 - 3. Axillary
 - ii. Hip
 - iii. Upper extremity, non-shoulder
 - iv. Lower extremity, non-hip
- 2. Image critique of radiographic position by the student to the clinical instructor
 - a. Brightness
 - i. Student adjustment of exposure factors for inadequate exposure index
 - ii. Exposure index value within appropriate range
 - iii. Over or under exposure
 - b. Contrast
 - i. Appropriate for body part
 - ii. Kilovoltage penetration appropriate for body part
 - c. Pertinent anatomy displayed
 - i. Proper position of body part
 - ii. Required anatomy visualized
 - d. Collimation to body part
 - i. Borders within image receptor
 - ii. Borders not clipping anatomy
 - iii. Central ray position
 - e. Identification markers
 - i. Correct identification of body part using right or left marker
 - ii. Radiographer initials displayed
 - iii. Marker displayed on lateral aspect of image
 - f. Pathology

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- i. Limitations on patient position
 - ii. Trauma versus routine projections
 3. Positioning of patients during procedures
 - a. Anatomy
 - i. Anatomy seen meets image criteria
 - ii. Proper rotation
 - b. Exposure factors
 - i. Kilovoltage needed to penetrate body part
 - ii. Milliampere required for radiation production
 - iii. Time selection to reduce motion
 - iv. Distance required for image
 - c. Grid use
 - i. Body part size over 10 centimeters
 - ii. Adult versus pediatric use
 - iii. Milliampere-seconds manipulation with grid use
 - d. Patient prep
 - i. Gown
 - ii. Exam preparation
 - iii. Sterile tray preparation
 - iv. Instructions for pre- and post- exam procedures
 4. Transportation
 - a. Wheelchair to radiography table and back
 - b. Gurney to radiography table and back
 5. Effective patient care communication and inclusivity
 - a. Cultural, race, disability, and gender considerations
 - b. Diverse cultural practices and beliefs
 - c. Language proficiency and the use of interpreters
 - d. Active listening
 - e. Nonverbal cues in patient communication skills
 - f. Cultivation of empathy and compassion
 6. Radiographic positioning and protocols
 - a. Knowledge of image protocols
 - b. Knowledge of body part positioning criteria
 - c. Adjustments to imaging protocols based on patient conditions
 7. Radiation safety for patient and self
 - a. Technical factors
 - i. Exposure index value
 - ii. Collimation
 - iii. Grid use
 - iv. Distance
 - v. Proper exposure factors
 - b. Patient considerations
 - i. Gonadal shielding
 - ii. Address patient concerns for overexposure
 - iii. As low as reasonable achievable concept
 - iv. Personal protective equipment
 - v. Tailoring safety practices to accommodate diverse populations
 8. MSJC policies and procedures followed during clinical training
 - a. Time logs
 - b. Exam logs
 - c. Direct and indirect supervision
 - d. Pregnancy
 - e. Hospital orientation
 - f. Dress code
 - g. Absences and holidays

- h. Time line of progression
- i. Clinical evaluation assessment tools
- 9. Clinical competencies
 - a. Pediatric chest routine (6 years or younger)
 - b. Trauma shoulder (scapular Y, transthoracic, or axillary)
 - c. Trauma hip (cross-table lateral)
 - d. Surgical C-arm orthopedic procedure (requiring manipulation around a sterile field to obtain more than one projection in multiple planes)
- 10. Clinical III evaluations
 - a. Mid-term
 - b. Final

Methods of Instruction

Method

Work Experience

Integration

On-the-job training, facilitated by a certified registered technologist at the clinical training site, is essential for students to develop the confidence and competence required for imaging actual patients in a hospital setting across a wide range of radiographic procedures. This training program places a special emphasis on diversity and inclusion, with a specific focus on surgical procedures utilizing C-arm equipment, pediatric cases, and trauma examinations, as these diverse patient populations require unique care considerations. Throughout their clinical experience, students will perform the majority of exams under indirect supervision, ensuring they receive comprehensive guidance and feedback to foster their clinical competency in an inclusive and diverse healthcare environment.

Method

Observation and Demonstration

Integration

Students will engage in a dynamic learning process where they actively participate in observing and collaborating with supervising radiographers while performing surgical procedures using C-arm equipment, pediatric, and trauma exams. This immersive approach allows students to not only gain knowledge through observation but also actively apply their learning by demonstrating these tasks, ultimately achieving a high level of competency.

Method

Critique

Integration

The critique aspect of this instruction serves a dual purpose. Firstly, it provides students with the essential ability to assess the radiographic images they have produced, enabling them to identify and rectify any errors, all while under the direct guidance of a supervisor. This process holds particular significance in the demanding and often high-pressure environment of C-arm manipulation during surgical procedures. Even the most seasoned radiographers may encounter challenges in image production, underscoring the need to refine the skill of promptly recognizing and correcting errors, with a specific emphasis on reducing the necessity for multiple retakes, particularly when dealing with pediatric patients.

The second facet of this critique instruction relates to the role of the supervising radiographer in evaluating the student's competency in executing radiographic procedures. While not every situation calls for a repeat image, students receive valuable oral assessments and immediate feedback immediately after completing a procedure. This constructive feedback loop allows students to continually enhance their performance abilities and progressively build competence over time.

Method

Individualized Instruction

Integration

Students will engage in one-on-one training sessions with experienced radiographers during their hospital rotations. The hospital boasts a diverse team of skilled radiographers, each offering unique expertise in various aspects of radiography. This affords students the opportunity to receive specialized training in performing radiographic procedures on pediatric patients, conducting trauma examinations, and mastering the use of C-arm equipment in surgical settings.

This individualized approach enables students to tailor their learning experience by working closely with different radiographers. Through these interactions, students can explore and identify the most effective methods for performing tasks, aligning with their unique learning styles and preferences.

Method

Discussion

Integration

Throughout their clinical training day, students will actively participate in informal discussions regarding the radiography procedures they are currently involved in. These discussions can take place with fellow students, the radiographers on-site, or their Clinical Instructor at the facility. One specific area of emphasis will revolve around case studies related to pediatric radiography, which presents unique challenges. These dialogues provide a valuable platform for students to gain a deeper insight into the reasoning behind the selection of pediatric procedures, the careful consideration of the most suitable procedure for visualizing anatomy and potential pathology, and the exploration of additional imaging modalities that can contribute to a comprehensive differential diagnosis. These conversations encompass strategies for effective communication with pediatric patients and their parents or guardians, aiming to discover creative approaches that minimize stress during procedures. While the focus is primarily on pediatric patients, which is age related, additional challenges present themselves when the pediatric patient, along with the parents, are of a different race or culture. Collaboration with fellow students, along with the experience of the staff radiographers and Clinical Coordinator, can facilitate discussions on how to successfully maneuver through these challenges to foster a high level of patient care and compassion.

This collaborative learning approach serves to enrich students' knowledge and cultivate their critical thinking skills within the realm of radiography while emphasizing the importance of patient-centered care for a diverse population.

Methods of Evaluation**Method**

Other

Integration

Students will undergo a mid-term and a final clinical evaluation, which will be assessed by the Clinical Instructor stationed at the affiliated hospital training site. Evaluations assesses the student's performance on imaging actual patients and interactions in the radiology department with radiographers and radiologists. This evaluation will play a crucial role in determining the students' clinical progress. Key aspects to be evaluated include their ability to adhere to instructions from supervising radiographers, their communication skills when interacting with a diverse population of patients and fellow healthcare professionals, their competence in assisting patients with the preparation of radiographic procedures, their ability to achieve the correct positioning when imaging patients, and their knowledge of imaging department procedures and protocols. Additionally, the evaluation will include an assessment of the student's critical thinking ability to correct for mistakes in exposure index values and patient positioning. The evaluations will also determine the student's progress in participating in procedures involving pediatric patients, trauma patients, and C-arm use in surgical procedures.

To assess students' proficiency, a skills checklist will be employed. This checklist will employ a Likert scale ranging from 1 to 5, with 1 indicating a need for improvement and progressively moving up to a 5 ranking, signifying that the student consistently performs the skill accurately. Students will need to achieve a minimum of 75% to successfully pass the evaluation.

Method

Other

Integration

Students will be assessed on how accurately and efficiently they complete a required radiographic procedure from start to finish on an actual patient in the hospital. The Clinical Instructor will use a checklist that lists the skills needed to perform the radiographic

procedure. For this course, clinical competency exams are required for a pediatric chest routine (6 years or younger), trauma shoulder (scapular Y, transthoracic, or axillary), trauma hip (cross-table lateral), and a surgical C-arm orthopedic procedure (requiring manipulation around a sterile field to obtain more than one projection in multiple planes).

These competency evaluations will play a crucial role in determining the students' clinical progress. Key aspects to be evaluated include positioning the patient for the radiographic projection, directing the central ray of the x-ray beam to the anatomic part, selection of exposure factors, applying collimation, identifying the image with a right or left marker, applying radiation protection, patient instructions for procedure, critiquing the radiographic image to determine a repeat if necessary, respecting patient modesty, and demonstrating proper patient communication providing clear and culturally sensitive instructions to patients, with consideration for any disabilities that may require tailored communication..

To assess students' competency, a skills checklist will be employed. This checklist will employ a Likert scale ranging from 1 to 5, with 1 indicating a need for improvement and progressively moving up to a 5 ranking, signifying that the student consistently performs the skill accurately. Students will need to achieve a minimum of 75% to successfully pass the competency evaluation.

Method

Presentations

Integration

During this semester of clinical training, students will have the opportunity to prepare and present case studies that reflect a commitment to diversity and inclusion, considering various aspects such as gender, race, culture, and disabilities. These case studies should focus on radiographic procedures that students find intriguing or particularly demanding, including those involving imaging of pediatric patients or trauma imaging. Each case study must encompass several key elements such as patient history, radiographic positions, anatomy seen, pathology, challenging aspects, exposure factors, and images.

Students will be expected to deliver their case studies to an audience that includes the Clinical Coordinator, Clinical Instructor, and fellow students, promoting an inclusive and respectful environment for sharing diverse perspectives.

Alongside their presentation, students should submit a written paper that provides a comprehensive overview of the case study. This paper should include all the above-mentioned details in a clear and organized format.

Evaluation of these case studies will be based on their accuracy and completeness.

Assignments

Assignment Type

Writing

In-class and/or outside of class

In-class

Outside of class

Formative or Summative

Summative

Assignment

Prepare and present a compelling case study on a radiographic procedure that you find particularly engaging and/or challenging during your clinical training on a pediatric patient or trauma exam. This assignment is designed to enhance your understanding of radiography, patient care, and the diagnostic process that involves imaging on pediatric and trauma patients. Below are the specific requirements for your case study presentation:

Patient History: A comprehensive account of the patient's relevant medical history, considering diverse backgrounds and potential cultural factors that may influence their or their parents' healthcare experiences.

Radiographic Positions: A description of the radiographic positions and techniques employed during the procedure. This should include the positioning of the patient, the positioning of the X-ray equipment, and any specific angles or views utilized.

Anatomy Observed: A thorough examination of the anatomy that is visible in the radiographic images. Students should identify and explain the structures and areas of interest that were captured in the images.

Pathology Displayed: If applicable, an analysis of any pathological findings or abnormalities present in the radiographic images. Students should provide context and interpretation for these findings, with consideration for the impact of diversity and unique medical conditions on diagnosis.

Challenging Aspects: An exploration of any challenges or difficulties encountered during the examination, acknowledging potential barriers related to patient cooperation, cultural differences, or disabilities. Pediatric patients, depending on their age, may not be able to follow or understand instructions for the exam. How were these barriers overcome? What tools did you use to gain the trust of the patient and/or the parents?

Exposure Factors: Documentation of the exposure factors used during the procedure, including details such as exposure time, mA (milliamperes), kVp (kilovoltage peak), and any additional technical settings.

Radiographic Images: Include relevant radiographic images to support and illustrate the case study's content. These images should be of high quality and appropriately labeled.

Presentation: Expect to deliver the case study to an audience consisting of the Clinical Coordinator, Clinical Instructor, and fellow students who are also training at the same hospital. Be ready to answer questions and engage in discussions regarding your case. Keep your presentation within a reasonable time frame to ensure that you cover all key points without rushing. Practice your presentation beforehand to ensure smooth delivery. Visual aids may be used, including slides or a poster, to enhance the understanding of your case study. Ensure that your images and visuals are clear and relevant.

Written Paper: Alongside the presentation, submit a written paper of at least 3 pages that provides a comprehensive overview of the case study. The paper should be organized, concise, and free from grammatical errors. Cite credible sources where necessary. The radiographic images should support your case study. These images should be of high quality and clearly labeled to highlight the anatomy and any pathology. You can use image annotations to emphasize important points. Anonymization of the patient information is required.

Evaluation of the case study will be based on accuracy, completeness, and participation in discussions. Be prepared to actively engage in discussions to foster a deeper understanding of pediatric and trauma radiographic procedures and their clinical application.

Feel free to reach out if you have any questions or need assistance with your case study presentation. This assignment aims to not only deepen your knowledge of radiography but also improve your communication and presentation skills, which are vital in your future career as a radiologic technologist.

Assignment Type

Other

In-class and/or outside of class

In-class

Formative or Summative

Summative

Assignment

Utilize the radiology equipment to perform radiographic exams on pediatric patients, trauma exams, and surgical procedures using the C-arm to produce diagnostic images on patients under direct supervision in the hospital setting while maintaining proper patient care and radiation protection. Performance will be graded using a clinical competency checklist provided by the instructor.

Competency evaluations will play a crucial role in determining your clinical progress. Key aspects to be evaluated include positioning the patient for the radiographic projection, directing the central ray of the x-ray beam to the anatomic part, selection of exposure factors, applying collimation, identifying the image with a right or left marker, applying radiation protection, patient instructions for

procedure, critiquing the radiographic image to determine a repeat if necessary, respecting patient modesty, and demonstrating proper patient communication.

Clinical competency evaluations that are due by the end of the semester are pediatric chest routine (6 years or younger), trauma shoulder (scapular Y, transthoracic, or axillary), trauma hip (cross-table lateral), and a surgical C-arm orthopedic procedure (requiring manipulation around a sterile field to obtain more than one projection in multiple planes).

The competency evaluations employ a Likert scale ranging from 1 to 5, with 1 indicating a need for improvement and progressively moving up to a 5 ranking, signifying that the student consistently performs the skill accurately. You will need to achieve a minimum of 75% to successfully pass the competency evaluation.

Assignment Type

Reading

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

To ensure that you are well-prepared to perform radiographic procedures for various anatomical regions safely and effectively, and to successfully pass the upcoming competency evaluations read and review chapters 15 and 16 of "Bontrager's Textbook of Radiographic Positioning and Related Anatomy," 10th edition by John Lampignano.

The purpose of reading these chapters is to gain a comprehensive understanding of the radiographic positioning techniques and related anatomical considerations for the specified body regions and to re-familiarize yourself with the standard positioning terminology, equipment, and patient preparation for pediatric exams, trauma radiography, and surgical procedures involving a C-arm to ensure that you are well-prepared to perform these procedures safely and effectively, and to successfully pass the upcoming competency evaluations.

As you read, take notes on key concepts, positioning terminology, and anatomical landmarks. Pay close attention to positioning principles, central ray alignment, and the importance of radiation protection. Reflect on how the knowledge gained from these chapters will be applicable to your clinical practice.

Be prepared for a discussion on the material covered in the assigned chapters during the next visit by the Clinical Coordinator to your hospital. Utilize the information you gather from this reading assignment to enhance your practical skills during clinical training.

Course Materials

Textbooks

Lampignano, John (2020), Bontrager's Textbook of Radiographic Positioning and Related Anatomy, 10th Ed., Elsevier. ISBN#: 978-0323749565

Other Resources

MSJC Radiology Department Policy and Procedures Manual.

Class Size Information

Class Size

32

Class Size Category

G - Large lab 32

Diversity and Inclusion

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

This course involves student on-the-job training at an affiliated hospital in the imaging department under direct and indirect supervision of a licensed radiographer. Students participate in radiographic procedures, focusing on pediatric and trauma, and interact with patients. Students also interact with other imaging department personnel, doctors, and other healthcare workers, especially during surgical C-arm procedures.

The students will have opportunities to interact with a diverse population of people that have a different race, culture, ethnicity, gender identity, and disability from themselves. Students will apply theoretical knowledge of diversity and inclusion into actual practice.

Course objectives and learning outcomes are supported through actual patient interactions to foster knowledge, empathy, and patient advocacy in developing future healthcare professionals.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

The course resources are in multiple formats to offer diverse learning methods to students. Training includes hands-on competency performance for students who learn best by doing. The case study assignment on a pediatric or trauma exam provides an additional opportunity for students to apply critical thinking skills in analyzing a case from start to finish to determine efficacy. Evaluations are used to help students understand their clinical progression throughout the semester and how best to improve. Students will be able to contribute to discussions of their own personal experiences as they will be actively training in the imaging department at an affiliated hospital. Radiographer to student interactions provide immediate feedback for those students who want verbal validation of their skill level attainment in imaging all procedures and the challenging aspects of pediatric and trauma radiography.

Interactions

Explain how the course will incorporate student-to-student interaction.

Students will be able to work with and communicate with other students who are also training at the hospital. Students can compare and discuss with each other the radiographic techniques they have learned and share lessons learned from experiences to improve their knowledge of imaging of pediatric and trauma patients.

Explain how the course will incorporate instructor-to-student interaction.

The Clinical Instructor at the affiliated hospital will interact directly with the student in learning and performing the day-to-day radiography tasks for all procedures, with direct supervision on pediatric and trauma exams along with C-arm manipulation in the surgical suite. The Clinical Coordinator will make routine visits to the hospital to ensure students are satisfied with their hospital experience and are gaining the necessary skills required for pediatric and trauma procedures. The Clinical Coordinator is available to the student through these visits along with email and phone conversations.

Explain how the course will incorporate student-to-content interaction.

Students will perform hands-on tasks in the hospital setting performing a variety of radiographic procedures under direct and indirect supervision. Special focus for this course is on pediatric and trauma patients which are challenging due to the age of the patient or the patient's condition. Students will have their textbook of radiographic positions, Chapter 15 and 16, to refer to if needed to review imaging procedures. Students will apply the MSJC Radiology Department policies and procedures to daily clinical tasks. The case study assignment offers students a valuable platform to explore a wide range of approaches, taking into consideration the diverse factors that can affect pediatric or trauma patients, including race, culture, gender identities, and disabilities.

Explain how the course will incorporate student-to-self interaction (metacognitive).

This course offers students the chance to critically examine and devise strategies for producing high quality radiographic images while prioritizing minimal radiation exposure, all while considering the diverse factors of race, culture, gender, and disabilities. Addressing unique patient challenges, including those encountered in pediatric and trauma exams, not only fosters personal growth but also reinforces the sense of self-worth derived from assisting a diverse array of individuals. As students actively engage in imaging real patients within a hospital training setting, they will continuously enhance their competence and confidence, aligning with principles of diversity and inclusion in healthcare practice.