RAD-655: RADIOLOGY INTERNSHIP II

Effective Term
Fall 2024

BOT Approval Date
12/14/2023

Discipline
RAD - Radiologic Technology

Course Number
655

Course Title
Radiology Internship II

Short Title
RAD Internship II

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 a continuation 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 competency performance

of radiologic imaging exams of the skull, spine, and digestive and urinary procedures. Observation of other radiographic procedures is allowed. Participation in other radiographic procedures is based on student competency and progression.

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-645 (with a grade of C or better)
and RAD-650 (with a grade of C or better).

Codes

TOP Code (CB 03)

1225.00* - *Radiologic Technology

CIP Code

510911 - 510911

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 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 direct and indirect supervision.
4. Prepare radiographic procedures that require fluoroscopy and other special imaging equipment with direct supervision.
5. Apprise the radiographic C-arm for surgical fluoroscopic procedures with direct supervision.

6. Evaluate proper patient care techniques when performing radiographic exams on all patients regardless of age, gender identity, disability, special needs, ethnicity, or culture.
7. Select technical factors to produce diagnostic images with the lowest radiation exposures possible to maintain image quality.
8. Select the appropriate radiation protection technique for the patient and personnel.
9. Evaluate the patient's status and condition before, during, and following the radiographic procedure to demonstrate competency in assessment skills
10. Evaluate image artifacts on radiographs if present.
11. Assess necessary and appropriate corrections for unacceptable radiographic images if needed, under direct supervision.
12. Comply with the concepts of team practice that focus on organizational theories, roles of team members, and conflict resolution.
13. 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.
14. Manage patient confidentiality standards.
15. Comply with 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 routine elbow exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
2. Students will successfully complete a competency evaluation on a routine lumbar spine exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
3. Students will successfully complete a competency evaluation on a routine upper gastrointestinal exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
4. Students will successfully complete a competency evaluation on a routine cystogram 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 and mobile 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 procedures under indirect supervision
        i. Lungs
        ii. Ribs
        iii. Sternum
    c. Abdomen routine procedures under indirect supervision
        i. Supine
        ii. Upright
        iii. Decubitus
    d. Mobile radiographic procedures under direct supervision
        i. Chest
        ii. Abdomen
        iii. Upper and lower extremities
    e. Spine procedures under direct supervision
        i. Cervical
        ii. Thoracic
        iii. Lumbar
        iv. Sacrum
        v. Coccyx
    f. Skull procecdures under direct supervision
        i. Cranium
        ii. Facial bones
        iii. Sinuses
        iv. Mandible
    g. Digestive system procedures under direct supervision
        i. Esophagram
        ii. Upper gastrointestinal
        iii. Lower gastrointestinal
        iv. Small bowel

   h. Urinary system procedures under direct supervision
      i. Cystogram
      ii. Voiding cystourethrogram
      iii. Retrograde urography
      iv. Intravenous pyelogram
   i. C-arm in surgery procedures under direct supervision
   j. Special radiographic procedures procedures under direct supervision
      i. Hysterosalpingograms
      ii. Arthrography
      iii. Myelography
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. Radiograher initials displayed
      iii. Marker displayed on lateral aspect of image
   f. Pathology
      i. Limitations on patient postition
      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. Milliamperage 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 needed
      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. Language proficiency and the use of interpreters

   c. Active listening
   d. Nonverbal cues in patient communication
   e. 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. Skull
   b. Facial bones
   c. Nasal bones
   d. Orbits
   e. Mandible
   f. Cervical spine
   g. Thoracic spine
   h. Lumbar spine
   i. Sacrum and coccyx
   j. Esphograms
   k. Upper gastrointestinal
   l. Small bowel
   m. Lower gastrointestinal
   n. Iintravenous pylograms
   o. Cystourethrograms
   p. Voiding cystourethrograms
10. Clinical II 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 a vital component of instructional approach. This method not only allows students to acquire the necessary skills and competence in imaging actual patients within a hospital setting but also places a strong emphasis on diversity and inclusion. Clinical training ensures that students gain confidence and proficiency in a wide range of imaging procedures, with a special focus on skull, spine, digestive, and urinary system examinations for comprehensive clinical competency evaluations. In line with the commitment to diversity and inclusion, emphasis is placed on the importance of understanding and respecting the unique needs and backgrounds of the patients. During their training, students will have the opportunity to perform most exams under direct supervision. However, for certain procedures such as chest, abdomen, and extremity examinations, they will have the chance to work more independently, honing their skills and fostering a sense of autonomy in a diverse and inclusive healthcare environment.

Method

Observation and Demonstration

Integration

In the imaging department, students will have the opportunity to closely observe supervising radiographers as they carry out various tasks related to patient imaging in the areas of skull, spine, digestive and urinary systems. This observational learning forms the foundation of their educational journey, as students absorb the necessary skills and knowledge through careful examination. Subsequently, they will actively demonstrate these skills to achieve clinical competency, with the expectation that required competency exams will be successfully completed by the end of the semester.

Method

Critique

Integration

The critique component of instruction encompasses two key aspects. Firstly, students acquire the ability to evaluate the radiographic images they have generated, allowing for the identification and rectification of any potential errors while benefiting from direct supervision. This is particularly pertinent in the context of skull imaging, where students must grasp the intricate criteria for evaluating skulls for accurate positioning. Additionally, spine imaging can pose challenges, especially when patients are in pain due to a back injury, making the need for accurate and precise imaging even more crucial.

It is acknowledged that all radiographers, regardless of their experience, may encounter occasional errors in image production. Therefore, it is imperative that students develop the skill of promptly recognizing these errors and addressing them with a single repeat image, rather than resorting to multiple retakes. This approach, particularly vital when working with imaging procedures involving contrast media such as digestive and urinary system exams, fosters efficiency and minimizes unnecessary radiation exposure.

The second facet of critique instruction pertains to the role of the supervising radiographer in assessing the student's competency in performing radiographic procedures. While a repeat image may not always be necessary, students benefit from receiving oral assessments and immediate feedback following the completion of a procedure. This continuous feedback loop is instrumental in students' ongoing development, allowing them to progressively enhance their performance skills and gain competence over time.

Method

Individualized Instruction

Integration

During their hospital-based training, students will have the valuable opportunity to work closely with experienced radiographers on a one-on-one basis. Students will concentrate on mastering radiographic procedures related to the skull, spine, digestive and urinary systems, as well as trauma imaging. The hospital is equipped with a team of skilled radiographers, offering students a diverse range of expertise. This approach fosters individualized instruction, as students can collaborate with various radiographers to discover the most effective methods for performing tasks. It allows each student to identify the approach that aligns best with their learning style and preferences while gaining proficiency in their chosen areas of radiography.

Method

Discussion

Integration

Students will have informal discussions on the radiography procedures of the skull, spine, digestive and urinary systems they are performing in the course of the day, either with other students, the radiographers, and/or the Clinical Instructor at their facility. Discussing case studies on skull, spine, and digestive and urinary system imaging, enables the student to understand the reason behind ordering the procedure, what procedure is best used to demonstrate anatomy and possible pathology, and what additional imaging modalities may be used to present a differential diagnosis. These conversations encompass strategies for effective communication with a variety of patients, aiming to discover creative approaches to effectively complete the procedures. 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.

Methods of Evaluation

Method

Other

Integration

Students will undergo both mid-semester and final clinical evaluations, which will be assessed by the Clinical Instructor stationed at the affiliated hospital training site. These evaluations assess the student's hands-on performance in imaging actual patients and interactions in the radiology department with radiographers and radiologists. These evaluations 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. Evaluations will also determine the student's progress in participating in procedures involving skull, spine, digestive and urinary system 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 routine skull, facial bones, nasal bones, orbits, mandible, cervical spine, thoracic spine, lumbar spine, sacrum and coccyx, esophagrams, upper gastrointestinal, small bowel, lower gastrointestinal, intravenous pyelograms, cystourethrograms, and voiding cystourethrograms procedures.

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

Students will be required to prepare and deliver case studies during this semester of clinical training. These case studies should focus on radiographic procedures of the skull, spine, digestive, and urinary system that they find intriguing or particularly demanding. Each case study must encompass several key elements, including:

Patient History: A detailed account of the patient's relevant medical history, including any previous medical conditions, injuries, or surgeries.

Fluoroscopy Equipment (if applicable): Selection of the fluoroscopic exposure factors along with setting up the equipment will be included. Determine what contrast media will be used and how it is prepared.

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.

Challenging Aspects: An exploration of any challenges or difficulties encountered during the examination. This could encompass technical challenges, patient cooperation issues, or any other relevant obstacles faced.

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.

Presentation: Students will be expected to deliver their case studies to an audience consisting of the Clinical Coordinator, Clinical Instructor, and fellow students who may also be undergoing training at the same hospital.

Written Paper: 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.

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

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. This assignment is designed to enhance your understanding of radiography, patient care, and the diagnostic process that involves imaging on a skull, spine, digestive system, or urinary system. Below are the specific requirements for your case study presentation:

Patient History: Provide a detailed description of the patient's background, including age, gender, relevant medical history, and the reason for the radiographic examination. Ensure you maintain patient confidentiality and adhere to ethical guidelines.

Fluoroscopy Equipment (if applicable): Selection of the fluoroscopic exposure factors along with setting up the equipment will be included. Determine what contrast media will be used and how it is prepared.

Radiographic Positions: Describe the radiographic positions and projections used in the examination. Include information on patient positioning, equipment setup, and any specialized techniques employed.

Anatomy Seen: Explain the anatomical structures that are visible in the radiographic images. Include labeled illustrations or diagrams, if applicable, to help the audience better understand the anatomy.

Pathology Demonstrated: If there is any pathology or abnormalities observed in the radiographic images, provide a comprehensive explanation. Include any relevant medical terminology and discuss the clinical significance of the findings.

Challenging Aspects: Reflect on the unique challenges encountered during the examination, encompassing technical skills and patient care, with a specific focus on how challenges were navigated while considering the cultural diversity of the patients. For instance, did the patient have different cultural beliefs and practices that affected their understanding of exam instructions? Were there any language barriers that made the positioning of the patient difficult? What did you do to overcome these challenges?

Exposure Factors: Detail the exposure factors used during the procedure, such as exposure time, tube current, tube voltage, and image receptor characteristics. Explain the rationale behind your choices and how they impacted the image quality.

The presentation format will include a written paper of at least 3 pages, along with radiographic images. The paper will need to be a well-structured paper that incorporates all the elements mentioned above. Your 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.

Be prepared to present your case study to the Clinical Coordinator, Clinical Instructor, and fellow students who may be 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.

The case study grade will be based on the quality of your written paper, the clarity and effectiveness of your presentation, and your ability to engage with the audience during the Q&A session.

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 skull, spine, and digestive and urinary system radiography procedures 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 of the skull, spine, digestive and urinary systems 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: routine skull, facial bones, nasal bones, orbits, mandible, cervical spine, thoracic spine, lumbar spine, sacrum and coccyx, esophagram, upper gastrointestinal, small bowel, lower gastrointestinal, intravenous pyelograms, cystourethrograms, and voiding cystourethrograms procedures.

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 8-9, 11-15, and 19 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 procedures for the skull, spine, digestive system, urinary system, trauma radiography considerations, and special imaging procedures that require sterile tray preparation.

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. Give at least one example to discuss with the other students at your site any challenges you have encountered in imaging a diverse population of patients in skull, spine, digestive, and urinary procedures. The grade for this assignment will be issued based on your participation in the discussions and the accuracy of the information you provide to the instructor's questions.

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. This course is a continuation of clinical training for the student to achieve the required experience to complete clinical competency evaluations and attain the skills necessary to successfully complete the radiologic technology program. Students participate in radiographic procedures of the skull, spine, digestive and urinary system procedures along with all types of radiographic exams, and also interact with patients. Students also interact with other imaging department personnel, doctors, and other healthcare workers.
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 challenging 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 of the skull, spine, digestive and urinary systems along with trauma and mobile imaging.

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 in imaging the skull, spine, digestive and urinary systems and share lessons learned from experiences to improve their knowledge of imaging.

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

The Clinical Instructor at the affiliated hospital will have direct interactions with students to guide and assist them in their daily radiography tasks. The CI will evaluate the student on skull, spine, digestive and urinary system exams to ensure a positive learning experience and skill development. The Clinical Coordinator from the college will conduct regular visits to the hospital. These visits serve the dual purpose of assessing student satisfaction with their hospital experience and ensuring they acquire the essential skills.

During these hospital visits, the Clinical Coordinator will also facilitate group discussions centered around case studies. This additional learning opportunity fosters a deeper understanding of radiography concepts and their practical application.

Students can reach out to the Clinical Coordinator not only during these on-site visits but also through email and phone communication.

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

In this course, students will actively engage with the hospital environment as they perform radiographic procedures of the skull, spine, digestive and urinary system procedures under direct supervision. They will be equipped with a comprehensive textbook on radiographic positions, serving as a valuable resource for reviewing and reinforcing imaging procedures when necessary.

Students will complete case studies that require them to read the textbook and to critically analyze how they performed a challenging procedure on skull, spine, digestive or urinary system procedures. 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 patients, including race, culture, gender identities, and disabilities.

Students will follow the MSJC Radiology Department policies and procedures, ensuring they fully comprehend and adhere to these guidelines.

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 skull, spine, digestive and urinary system procedures, 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.

Key: 3082