



RAD-645: RADIOLOGY INTERNSHIP I

Effective Term

Fall 2024

BOT Approval Date

12/14/2023

Discipline

RAD - Radiologic Technology

Course Number

645

Course Title

Radiology Internship I

Short Title

RAD Internship I

Credit Status (CB 04)

D - Credit - Degree applicable

Units**Lab Units**

6.00

Total Units

6

Hours**Lab Contact Hours**

288-324

Out of Class Hours Lab

0.00

Total Contact Hours

288 - 324

Total Out of Class Hours

0 - 0

Total Student Learning Hours

288 - 324

Is this an existing Extensive Lab?

No

Do you want to propose this for Extensive Lab?

No

Distance Education

No

Catalog Description

This course begins 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 summer session. Clinical experiences are designed to provide assessment of competency performance of radiologic



imaging exams of the chest, abdomen, and extremities. 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
JRCERT 2021 Radiography Standards pg 28.pdf
CA Title 17 Code Clinical Hours.pdf

Attach Supporting Documents

LMI.pdf

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

RAD-525 (with a grade of C or better)

and RAD-530 (with a grade of C or better)

and RAD-535 (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 radiographic images of the chest, abdomen, and extremities with direct and indirect supervision.
2. Perform mobile radiographic procedures of the chest, abdomen, and extremities under direct supervision.
3. Observe radiographic procedures and critique radiographic images of the spine and skull along with the digestive and urinary systems with direct supervision.

4. 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.
5. Formulate technical factors to produce diagnostic images with the lowest radiation exposures possible to maintain image quality.
6. Analyze and apply the appropriate radiation protection technique for the patient and personnel.
7. Evaluate the patient's status and condition before, during, and following the radiographic procedure to demonstrate competency in assessment skills.
8. Correct for image artifacts on radiographs if present.
9. Critique and correct unacceptable radiographic images under direct supervision.
10. Support the concepts of team practice that focus on organizational theories, roles of team members, and conflict resolution.
11. 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.
12. Value patient confidentiality standards.
13. 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 routine chest exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
2. Students will successfully complete a competency evaluation on a routine abdomen exam using appropriate radiographic principles, patient care skills, and communication under direct supervision.
3. Students will successfully complete a competency evaluation on routine hand, wrist, elbow, shoulder, and clavical exams using appropriate radiographic principles, patient care skills, and communication under direct supervision.
4. Students will demonstrate the ability to independently seek out and adapt to emerging technologies, techniques, and best practices in the field, reflecting a commitment to lifelong learning in radiology through the successful completion of the end of semester clinical evaluation.

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 supervision
 - a. Upper/lower extremities routine and mobile procedures
 - i. Shoulder girdle
 - ii. Humerus
 - iii. Elbow
 - iv. Forearm
 - v. Wrist
 - vi. Hand
 - vii. Fingers
 - viii. Hip
 - ix. Femur
 - x. Knee
 - xi. Lower leg
 - xii. Ankle
 - xiii. Foot
 - xiv. Toes
 - b. Chest routine and mobile procedures
 - i. Lungs
 - ii. Ribs
 - iii. Sternum
 - c. Abdomen routine and mobile procedures
 - i. Supine
 - ii. Upright
 - iii. Decubitus
2. Image critique of radiographic position by the student to the clinical instructor
 - a. Brightness
 - i. Over or under exposure
 - ii. Exposure index value within appropriate range
 - iii. Student adjustment of exposure factors for inadequate exposure index
 - 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
 - i. Limitations on patient position
 - ii. Trauma versus routine projections
- 3. Positioning of patients during procedures
 - a. Anatomy
 - i. Proper rotation
 - ii. Anatomy seen meets image criteria
 - 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 needed
 - ii. Exam preparation
 - iii. Sterile tray preparation
 - iv. Instructions for pre- and post- exam procedures
- 4. Transportation
 - a. Gurney to radiography table and back
 - b. Wheelchair to radiography table and back
- 5. Patient care communication and inclusivity
 - a. Cultivation of empathy and compassion
 - b. nonverbal cues in patient communication
 - c. Active listening
 - d. Language proficiency and the use of interpreters
 - e. Cultural, race, disability, and gender considerations
- 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 condition
- 7. Radiation safety for patient and self
 - a. Exposure index value
 - b. Collimation
 - c. Grid use
 - d. Distance
 - e. Proper exposure factors
 - f. Gonadal shielding
- 8. MSJC policies and procedures
 - 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. Hospital and department policies and procedures
 - a. Radiography/fluorography equipment orientation
 - b. Hospital employee orientation
 - i. Fire drill
 - ii. Codes

- iii. Emergency procedures
 - iv. Patient privacy policies (Health Insurance Portability and Accountability Act)
 - c. Dress code
 - d. Magnetic resonance imaging orientation and safety
10. Clinical competencies
- a. Routine chest
 - b. Abdomen series
 - c. Hand
 - d. Wrist
 - e. Elbow
 - f. Shoulder
 - g. Clavicle
 - h. Foot
 - i. Ankle
 - j. Knee
 - k. Hip
11. Clinical I evaluations
- a. Mid-term
 - b. Final

Methods of Instruction

Method

Work Experience

Integration

On-the-job training under direct and indirect supervision is needed for students to gain confidence and competence in imaging actual patients in a hospital setting. This training gives the student the opportunity to interact with patients, honing their skills in effectively communicating with a diverse population. Students will participate in all exams, however, the focus for this course will be chest, abdomen, and extremity exams. These are the exams that require a competency evaluation at the end of the semester. Once competency has been achieved, the student will be allowed to perform these exams under indirect supervision.

Method

Observation and Demonstration

Integration

Students will engage in a comprehensive instructional approach by shadowing a supervising radiographer in the imaging department. This method encourages students to observe and actively participate in various tasks related to imaging patients. Through this process, students will acquire the necessary skills and knowledge, progressing towards competency toward chest, abdomen, and extremity exams as they not only observe but also demonstrate their understanding of these tasks.

Method

Critique

Integration

The critique section of instruction is two-fold. Students learn to critique the radiographic images they have performed to correct any mistakes, if needed, under direct supervision. All radiographers will make an occasional mistake in producing images. It is imperative to gain the skill of recognizing the mistake and correcting it with one repeat image and not multiple repeats. The second part of critique instruction refers to the supervising radiographer in addressing the student's competency in performing radiographic procedures of the chest, abdomen, and extremities. While a repeat image may not be warranted, a student learns by receiving an oral assessment and feedback immediately after the procedure has been performed. Students gain competence by continuing to improve performance skills in the chest, abdomen, and extremity exams to successfully progress in the course.

Method

Individualized Instruction

Integration

Students will engage in personalized, one-on-one training sessions with experienced radiographers during their hospital rotations. Within the hospital, a team of skilled radiographers will be available to mentor and guide students through various radiographic procedures such as the chest, abdomen, and extremities. This approach fosters tailored instruction, enabling students to explore different techniques and strategies under the guidance of multiple radiographers. Ultimately, this empowers students to identify and adopt the most effective methods for executing radiographic tasks that align with their learning preferences and needs.

Method

Discussion

Integration

In the pursuit of comprehensive education, students will engage in inclusive and culturally sensitive discussions on radiography procedures throughout their daily clinical experiences. These discussions occur with fellow students, radiographers, and the Clinical Instructor at their facility. By fostering a diverse and inclusive environment, open dialogue is encouraged that considers different perspectives based on race, gender, culture, and abilities.

These conversations serve to enhance the students' understanding of the rationale behind ordering procedures such as the chest, abdomen, and extremities, the most effective methods for demonstrating anatomy and potential pathology, and the consideration of various imaging modalities for presenting differential diagnoses. This approach not only promotes a rich exchange of ideas but also encourages the recognition and respect of diverse viewpoints within the healthcare community.

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 performance on 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.

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 chest, abdomen, hand, wrist, elbow, shoulder, clavicle, foot, ankle, knee, and hip.

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.

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 chest, abdomen, or extremities 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.

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 will submit a written paper that provides a comprehensive overview of the case study. This paper will 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 involve imaging of the chest, abdomen, or extremities. 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.

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: Discuss the specific challenges you encountered during the examination, both in terms of technical skills and patient care. Explain how you overcame or addressed 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 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 the chest, abdomen, and extremities 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 to a diverse population.

Clinical competency evaluations that are due by the end of the semester are: routine chest, abdomen, hand, wrist, elbow, shoulder, clavicle, foot, ankle, knee, and hip.

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 2-5 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.

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 chest, abdomen, or extremity exams. 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. Students participate in all types of radiographic procedures, but will focus on the chest, abdomen, and upper extremity exams. Students also interact with patients along 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 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 chest, abdomen, and extremity procedures.

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 on the chest, abdomen, and extremity exams they have learned and share 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 chest, abdomen, and upper extremity 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 chest, abdomen, and upper extremity exams under both direct and indirect 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 immerse themselves in the intricacies of the MSJC Radiology Department policies and procedures, ensuring they fully comprehend and adhere to these guidelines. Additionally, they will gain a deep understanding of the policies and procedures specific to the Imaging Department at the partnering hospital.

To foster a seamless transition into the hospital environment, students will participate in thorough hospital orientations. These orientations will not only acquaint them with hospital policies but also provide an open platform for students to seek clarification and ask questions. This proactive approach to student-to-content interaction ensures that students are well-prepared and engaged throughout their clinical experience.

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

This course provides opportunities for students to analyze and strategize how they will produce high quality radiographic images of the chest, abdomen, and upper extremities with the least amount of radiation possible for themselves and the patient for diagnostic interpretation from a radiologist. Solving patient challenges provides growth and recognition of self worth in helping others. Students will gain competence and confidence as they participate in imaging actual patients that are diverse in culture, race, and disabilities in a hospital training setting.

Key: 3081