RADT-292S: CLINICAL RADIOGRAPHY III

Cuyahoga Community College

Viewing: RADT-292S : Clinical Radiography III

Board of Trustees:
June 2023

Academic Term:
Fall 2023

Subject Code
RADT - Radiography

Course Number:
292S

Title:
Clinical Radiography III

Catalog Description:
Directed practice experience in the hospital environment. Competency-based training and evaluation on radiographic equipment and procedures. This is a capstone course in radiography to hone medical imaging and critical thinking skills in all imaging areas. This includes 16 hours of embedded lecture delivered at the clinical site.

Credit Hour(s):
7

Lecture Hour(s):
0

Other Hour(s):
576

Other Hour Details:
Directed practice: 576 hours

Requisites

Prerequisite and Corequisite
RADT-291S Clinical Radiography II, and departmental approval: admission to program.

Outcomes

Course Outcome(s):
A. Demonstrate professionalism in carrying out the functions and responsibilities of an advanced student radiographer under direct and indirect supervision.

Essential Learning Outcome Mapping:
Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):
a. Exercise the priorities required in daily clinical practice.
b. Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution.
c. Describe the role of the healthcare team members in responding/reacting to a local or national emergency.
d. Integrate appropriate personal and professional values into clinical practice.
e. Recognize the influence of professional values on patient care.
f. Apply the principles of total quality management.
g. Maintain patient confidentiality standards and meet Health Insurance Portability and Accountability Act (HIPAA) requirements.

Course Outcome(s):

B. Perform patient care through appropriate action and communication with diverse populations under direct and indirect supervision.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

a. Execute medical imaging procedures under the appropriate level of supervision.
b. Provide patient centered clinically effective care for all patients regardless of their age, gender, disability, special needs, ethnicity or culture.
c. Integrate the use of appropriate and effective written, oral and nonverbal communication with patients, the public and members of the healthcare team in the clinical setting.
d. Use patient and family education strategies appropriate to the comprehension level of the patient/family.
e. Provide desired psychosocial support to the patient and family.
f. Demonstrate competent assessment skills through effective management of the patient's physical and mental status.
g. Respond appropriately to medical emergencies.
h. Assess the patient and record clinical history.
i. Demonstrate basic life support procedures as evidenced by current valid CPR card.
j. Use appropriate charting methods.
k. Apply standard and transmission-based precautions.
l. Apply the appropriate medical asepsis and sterile technique.
m. Demonstrate the principles of transferring, positioning and immobilizing patients.
n. Recognize life-threatening ECG tracing.

Course Outcome(s):

C. Adapt procedures to meet age specific, disease specific, and cultural needs of patients.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

a. Recognize how a person's cultural beliefs toward illness and health affect his or her health status.
b. Recognize demographic factors that influence patient compliance with medical care.

Course Outcome(s):

D. Perform radiographic procedures using radiation safety, safe equipment operation and patient safety under direct and indirect supervision.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

a. Demonstrate competency in the principles of radiation protection standards.
b. Select technical factors to produce quality diagnostic images with the lowest radiation exposure possible.
c. Adhere to national, institutional and department standards, policies and procedures regarding care of patients, providing radiologic procedures and reducing medical errors.
d. Report equipment malfunctions.
e. Demonstrate safe, ethical and legal practices.
f. Comply with departmental and institutional response to emergencies, disasters and accidents.

Course Outcome(s):

E. Employ critical thinking and problem solving to routine and non-routine procedures under direct and indirect supervision.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

a. Critique images for appropriate anatomy, image quality and patient identification.
b. Determine corrective measures to improve inadequate images.
c. Differentiate between emergency and non-emergency procedures.
d. Examine procedure orders for accuracy and make corrective actions when applicable.
e. Integrate the radiographer's practice standards into clinical practice setting.
f. Adapt to changes and varying clinical situations.

Course Outcome(s):

F. Prepare to transition from the role of the student to that of the radiographer.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

a. Discuss credentialing, national certification and registration and state licensure.
b. Distinguish the types, purposes and functions of professional organizations.
c. Discuss career opportunities and advancement for the radiographer.
d. Identify the benefits of continuing education as related to improved patient care and professional development.
e. Complete a sample application for employment.
f. Prepare a resume, cover letter and follow up letter in preparation for employment.
g. Prepare for the interview process and employment in the field of medical imaging.
h. Summarize education to include ethical and professional values and growth.
i. Describe goals and plans for life-long learning and professional development.
j. Evaluate a clinical situation utilizing critical thinking and problem solving skills and its effect on the medical care of the patient.
k. Describe approach when working with and teaching students as a registered radiographer.
l. Review for American Registry of Radiologic Technologists (ARRT) certification examination.

Methods of Evaluation:

a. Exam competency
b. Evaluation of technical skills and behavior
c. Student conferences
d. Portfolio assignments
e. Portfolio
f. Mock certification exams

Course Content Outline:

a. Professionalism
    i. Standards of Ethics and Professional Behavior
        1. American Society of Radiologic Technologists (ARRT) Standards of Ethics incident reporting mechanisms
        2. Student supervision
            a. Direct
            b. Indirect
        3. The patient's expectations, rights and responsibilities
        4. The radiographer's professional responsibilities
    ii. Professional communication

1. Patients
2. Patient's family or authorized representatives
3. Health care team
4. Confidentiality of patient records (Health Insurance Portability and Accountability Act [HIPAA] compliance)

iii. Radiography Practice Standards
1. Scope of Practice
2. Clinical Performance Standards
3. Quality Performance Standards
4. Professional Performance Standards
5. American Society of Radiologic Technologists (ASRT) Advisory Opinion Statements
6. ASRT's Best Practices in Digital Radiography

iv. Values
1. Personal
   a. Values development
   b. Effect on patient care
2. Societal
   a. Rights and privileges
   b. Community values
   c. Effect on patient care
3. Professional
   a. Values development
   b. Values conflict
   c. Effect on patient care
   d. Effect on social media

v. Professional Development and Advancement
1. Required
   a. Continuing education
   b. Continuing qualifications requirement (CQR)
2. Clinical Experience
3. Continuing education opportunities
   a. Post primary certification
   b. Collegiate/educational programs
   c. Self-learning activities
   d. Professional conferences
   e. Webinars
   f. Other (e.g., vendor programs)
4. Employment considerations
   a. Geographic mobility
   b. Economic factors
   c. Workforce needs
5. Advancement opportunities
   a. Education
   b. Administration
   c. Advanced practice
   d. Medical physics
   e. Research
   f. Industrial
   g. Medical informatics
   h. Sales/applications
   i. Safety Officer

vi. Diversity, equity and inclusion
1. Diversity concepts
   a. Individual
   b. Population
   c. Social
2. Socioeconomic factors
3. Gender identity/expression
4. Ethnicity (e.g., language)
5. Race

6. Age
    a. Infant
    b. Child
    c. Adolescent
    d. Young adult
    e. Middle-aged
    f. Geriatric
7. Family structure and dynamics
8. Geographical factors
9. Religion, spirituality and belief system
10. Lifestyle choices and behaviors
11. Sexual orientation
12. Disability
13. Equity
    a. Structural racism
    b. Social justice
14. Culture of inclusion
    a. Environmental
    b. Organizational

b. Procedural Performance
    i. Scheduling and sequencing of exams
    ii. Order/requisition evaluation and corrective measures
    iii. Facilities setup
    iv. Patient assessment, clinical history, education and care
        1. Patient monitoring- emergency and non emergency
            a. Vital signs
            b. Assessment and clinical history
            c. Equipment
            d. Patient emergencies
        2. Patient privacy and confidentiality (HIPAA)
        3. Documentation
        4. Infection control
            a. Personal protective equipment (PPE)
                i. Types
                ii. Proper use
        5. Patient education
            a. Appropriate communication style
            b. Age specific
            c. Cultural sensitivity
            d. Socioeconomic sensitivity
            e. Patient centered care
        6. Medical error reduction
        7. Patient safety considerations
    v. Imaging
        1. Positioning considerations
        2. Technical considerations
        3. Image acquisition
        4. Image analysis
    vi. Radiation protection
        1. Principles (as low as reasonably achievable (ALARA))
        2. Radiation safety practices

a. Protection of the patient (American Association of Medical Physicists in Medicine [AAPM] recommendations)
b. Protection of personnel
c. Protection of others

vii. Education
1. Patient, family members or authorized representatives
2. Other members of the healthcare team

viii. Equipment and accessories

ix. Exam specific protocols according to ARRT Clinical Competency Requirements
1. Extremities
a. Upper extremities
b. Lower extremities
2. Thorax, abdomen and pelvis
a. Chest
b. Abdomen
c. Intravenous urography
d. Pelvis and hip
e. Ribs
f. Sternum
g. Sternoclavicular joints
h. Soft tissue neck
3. Gastrointestinal (GI) procedures
a. Contrast enemas (single or double contrast)
b. Esophageal studies
c. Small bowel series
d. Swallowing dysfunction studies
e. Upper GI series (single or double contrast)
4. Mobile radiography
a. Chest
b. Abdomen
c. Extremities
d. Cranium
e. Other
5. ER/trauma and general procedures
a. Chest
b. Abdomen
c. Extremities
d. Cranium
e. Spines
f. Other
6. Spine
a. Cervical spine
b. Thoracic spine
c. Lumbar spine
d. Sacrum and coccyx
e. Scoliosis series
f. Sacroiliac joints
7. Head
a. Facial bones
b. Mandible
c. Nasal bones
d. Orbits
e. Paranasal sinuses
f. Skull
g. Temporomandibular joints
8. Specialized contrast procedures
a. Arthrography
b. Cystography

c. Endoscopic retrograde cholangiopancreatogram (ERCP)
d. Hysterosalpingography (HSG)
e. Myelography
f. Selective contrast procedures

9. Surgical Procedures
   a. C-arm procedures
   b. Cystourethrography
   c. Orthopedic procedures
   d. Pacemaker insertion
   e. Pain management
   f. Retrograde urography
   g. Spinal procedures
   h. Surgical cholangiography
   i. Other surgical procedures
10. Computed tomography (CT) procedures
    a. Abdomen
    b. Chest
    c. Head
    d. Spines
    e. Other special studies
11. Observational areas
    a. Cardiac catheterization
    b. Interventional radiography
    c. Magnetic resonance imaging (MRI)
    d. Mammography
    e. Nuclear medicine
    f. Radiation therapy
    g. Ultrasound

Resources

Cuyahoga Community College Radiography Program. (Month and year of 1st clinical semester) *Radiography Program Clinical Manual*, Western Campus, Parma OH: Cuyahoga Community College.

Salimbene, S. (2015) *What Language Does Your Patient Hurt In?*, St. Paul: EMC Paradigm.

Long, B.W., Rollins, J.H., & Smith, B.J. (2022) *Merrill's Atlas of Radiographic Positioning and Procedures, Vol. 1-3*, St. Louis: Elsevier.

Corectec Online Registry Review, http://www.corectecreview.com

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Resources Other

a. American Society of Radiologic Technologists Radiography Curriculum www.asrt.org
b. American Registry of Radiologic Technologists radiography certification examination content specifications www.arrt.org
c. Saia, D. A. (2018) *Radiography PREP: Program Review and Examination,* New York: McGraw Hill.
d. Saia, D. A. (2020) *Lange Q & A*, New York: McGraw Hill
e. Callaway, W. J. (2022) *Mosby's Comprehensive Review of Radiography*, St. Louis: Elsevier

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