

# RADT-1911: CLINICAL RADIOGRAPHY I

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## Cuyahoga Community College

**Viewing: RADT-1911 : Clinical Radiography I**

**Board of Trustees:**

March 2023

**Academic Term:**

Fall 2023

**Subject Code**

RADT - Radiography

**Course Number:**

1911

**Title:**

Clinical Radiography I

**Catalog Description:**

Directed practice experience in the hospital environment. Competency-based training and evaluation on radiographic equipment and procedures. Emphasis on positioning and patient care skills including pediatric and geriatric populations. Includes a variety of imaging: appendicular skeleton, gastrointestinal procedures, mobile radiography, trauma and non-trauma exams.

**Credit Hour(s):**

7

**Lecture Hour(s):**

0

**Other Hour(s):**

576

**Other Hour Details:**

Directed Practice: 576 hours; This includes 16 hours of embedded lecture delivered at the clinical site

## Requisites

**Prerequisite and Corequisite**

Departmental approval: admission to program.

## Outcomes

**Course Outcome(s):**

A. Demonstrate professionalism in carrying out the functions and responsibilities of a student radiographer under direct 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.
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**Course Outcome(s):**

B. Perform basic patient care through appropriate action and communication with diverse populations under direct 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 basic 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 health care 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 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.

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**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):**

1. Explain how a person's cultural beliefs toward illness and health affect his or her health status.
2. Examine demographic factors that influence patient compliance with medical care.
3. Discuss the concept of diversity and its impact of the delivery of patient care.

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**Course Outcome(s):**

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

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**Course Outcome(s):**

E. Employ critical thinking and problem solving to routine and non-routine procedures under direct 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):**

1. Critique images for appropriate anatomy, image quality and patient identification.
2. Determine corrective measures to improve inadequate images.
3. Differentiate between emergency and non-emergency procedures.
4. Examine procedure orders for accuracy and make corrective actions when applicable.
5. Integrate the radiographer's practice standards into clinical practice setting.
6. Adapt to changes and varying clinical situations.

**Methods of Evaluation:**

- a. Exam competency
- b. Written quizzes
- c. Evaluation of Technical Skills and Professional Behavior
- d. Student conferences
- e. Portfolio assignments

**Course Content Outline:**

## Professionalism

- a. Standards of Ethics and Professional Behavior
  - i. American Registry of Radiologic Technologists (ARRT) Standards of Ethics incident reporting mechanisms
  - ii. Student supervision
    1. Direct
    2. Indirect
  - iii. The patient's expectations, rights and responsibilities
  - iv. The radiographer's professional responsibilities
- b. Professional communication
  - i. Patients
  - ii. Patient's family or authorized representatives
  - iii. Healthcare team
  - iv. Confidentiality of patient records (Health Insurance Portability and Accountability Act [HIPAA] compliance)
- c. Radiography Practice Standards
  - i. Scope of Practice
  - ii. Clinical Performance Standards
  - iii. Quality Performance Standards
  - iv. Professional Performance Standards
  - v. American Society of Radiologic Technologists (ASRT) Advisory Opinion Statements
  - vi. ASRT's Best Practices in Digital Radiography
- d. Values
  - i. Personal
    1. Values development
    2. Effect on patient care
  - ii. Societal
    1. Rights and privileges
    2. Community values
    3. Effect on patient care
  - iii. Professional
    1. Values development
    2. Values conflict
    3. Effect on patient care
    4. Effect on social media
- e. Diversity, equity and inclusion

- i. Diversity concepts
  - 1. Individual
  - 2. Population
  - 3. Social
- ii. Socioeconomic factors
- iii. Gender identity/expression
- iv. Ethnicity (e.g., language)
- v. Race
- vi. Age
  - 1. Infant
  - 2. Child
  - 3. Adolescent
  - 4. Young adult
  - 5. Middle-aged
  - 6. Geriatric
- vii. Family structure and dynamics
- viii. Geographical factors
- ix. Religion, spirituality and belief system
- x. Lifestyle choices and behaviors
- xi. Sexual orientation
- xii. Disability
- xiii. Equity
  - 1. Structural racism
  - 2. Social justice
- xiv. Culture of inclusion
  - 1. Environmental
  - 2. Organizational

Procedural Performance

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

- i. As Low as Reasonably Achieved (ALARA) Principles
- ii. Radiation safety practices
  - 1. Protection of the patient (American Association of Physicists in Medicine [AAPM] recommendations)
  - 2. Protection of personnel
  - 3. Protection of others
- iii. Education
  - 1. Patient, family members or authorized representatives
  - 2. Other members of the healthcare team
- iv. Equipment and accessories
- g. Exam specific protocols according to ARRT Clinical Competency Requirements
  - i. Extremities
    - 1. Upper extremities
    - 2. Lower extremities
  - ii. Thorax, abdomen and pelvis
    - 1. Chest
    - 2. Abdomen
    - 3. Intravenous urography
    - 4. Pelvis and hip
  - iii. Gastrointestinal (GI) procedures
    - 1. Contrast enemas (single or double contrast)
    - 2. Esophageal studies
    - 3. Small bowel series
    - 4. Swallowing dysfunction studies
    - 5. Upper GI series (single or double contrast)
  - iv. Mobile radiography
    - 1. Chest
    - 2. Abdomen
    - 3. Extremities
  - v. ER/trauma and general procedures
    - 1. Chest
    - 2. Abdomen
    - 3. Extremities

## Resources

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

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

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Long, B.W., Rollins, J.H., & Smith, B.J. (2023) *Merrill's Atlas of Radiographic Positioning and Procedures, Vol. 1-3*, St. Louis: Elsevier.

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## Resources Other

- a. American Society of Radiologic Technologists Radiography Curriculum. [www.asrt.org](http://www.asrt.org)
- b. American Registry of Radiologic Technologists radiography certification examination content specifications [www.arrt.org](http://www.arrt.org)
- c. Patient Diversity: Beyond the Vital Signs. Video

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