Medical Radiography Technology

Clinical Placement 3

COURSE INFORMATION

COURSE NUMBER	PRCT 358
TOTAL HOURS	337.5
THEORY	0
PRACTICAL	337.5
PREREQUISITES	MRAD 285 - Radiographic Applied Skills INFC 215 - Infection Prevention and Control QUAL 370 - Quality Assurance and Control MRAD 302 - Specialized Imaging 2 MRAD 209 - Professional Practice 1 MRAD 281 - Computed Tomography Theory 2 PRCT 356 - Clinical Placement II
CO-REQUISITES	None
ACADEMIC UNIT RESPONSIBLE FOR COURSE	Allied Health Education

STUDENTS, PLEASE NOTE

This course contains information that may be required to substantiate learning for professional recognition. It is your responsibility to retain a copy for your own use during your program and after graduation.

COURSE DESCRIPTION

Clinical Placement 3 builds on the previous clinical placements and involves clinical education under the supervision of registered technologists. Focus will be on continued practice in patient care and handling, radiographic positioning, equipment use, radiation protection, quality control and image evaluation. Mastering advanced procedures will be emphasized.

COURSE OBJECTIVES

Following completion, the student will be able to:

1. Incorporate professional, legal, and ethical standards into the practice of medical radiologic technology.
    - 1.1 Apply problem-solving strategies to all clinical situations.
    - 1.2 Select the appropriate course of action based on professional, legal, and ethical standards of an institution.
    - 1.3 Demonstrate professional behaviours.
    - 1.4 Participate in professional development.
    - 1.5 Revise his/her practice based on viable current research.
    - 1.6 Apply resource management principles in the diagnostic imaging department.

2. Perform clinical procedures ensuring patient comfort and safety.
    - 2.1 Provide a safe environment to minimize the risk of adverse events to patients and staff.
    - 2.2 Communicate effectively with other healthcare professionals and patients to improve outcomes.
    - 2.3 Perform patient assessments and medical interventions within scope of practice.
    - 2.4 Implement infection control practice.
    - 2.5 Respond to patient hygiene needs.
    - 2.6 Counsel the patient with respect to care before, during and after the procedure.
    - 2.7 Prepare a sterile environment.
    - 2.8 Plan for the use of appropriate contrast media.

3. Apply radiation protection regulations and standards to ensure personal and public safety.
    - 3.1 Protect the patient and staff from radiation with appropriate use of shielding and accessory devices.
    - 3.2 Apply the as low as reasonably achievable (ALARA) principle in the practice of medical radiation technology.
    - 3.3 Ensure appropriate use of the radiation emitting equipment by complying with all safety legislation.
    - 3.4 Monitor radiation exposure dose to patients, staff, caregivers, and the general public.
    - 3.5 Inform patients, public and other healthcare workers of relative dose expectations and radiation safety.
4. Operate the imaging modality for image acquisition consistent with the procedure and patient condition.

4.1 Select imaging parameters on various modalities used in the diagnostic imaging department.
4.2 Use various types of image receptors appropriately.
4.3 Verify accuracy of patient demographics or acquired image.
4.4 Verify accuracy and visibility of radiographic markers.
4.5 Utilize picture archiving communication systems (PACS).
4.6 Evaluate the diagnostic quality of the image.
4.7 Adjust imaging parameters when additional or supplementary images are required.

5. Perform radiographic procedures of the various systems of the body.
5.1 Identify the gross anatomy, physiology and relational anatomy of the body part or system in question.
5.2 Ensure the availability of appropriate resources to ensure a positive patient outcome.
5.3 Adapt a requested examination to an individual patient using patient condition and clinical information.
5.4 Correlate patient history and clinical information.
5.5 Plan the radiographic procedure to ensure patient safety and comfort.
5.6 Position the part so that all affected anatomical structures and pathologies can be demonstrated.
5.7 Evaluate quality of images for the purpose of diagnostic interpretation.
5.8 Obtain additional and corrective images if required.
5.9 Demonstrate an efficient workflow.

6. Participate in mammographic imaging procedures.
6.1 Identify common mammographic procedures.
6.2 Explain the gross anatomy and relational physiology of the breast.
6.3 Differentiate between a screening and a diagnostic procedure.
6.4 Plan a mammographic procedure.
6.5 Assist in the positioning of the patient for mammography using correct anatomical landmarks.

7. Perform Computed Tomography (CT) imaging procedures.
7.1 Explain the gross anatomy and relational physiology of the head, neck, chest, spine, abdomen, and pelvis.
7.2 Plan the imaging procedure based on available patient history, previous studies, contraindications, and protocols.
7.3 Prepare contrast media using the automatic injector when required.
7.4 Position the patient for CT imaging procedures using anatomical landmarks.
7.5 Select parameters for the CT imaging procedures to demonstrate required anatomy and physiology.
7.6 Evaluate the quality of images for the purposes of diagnostic interpretation.
7.7 Reconstruct additional images if required.

8. Participate in bone mineral density (BMD) procedures.

8.1 Identify BMD procedures.

8.2 Position the patient accurately on BMD scanning bed.

8.3 Evaluate anatomy, physiology, and patient position on the images.

8.4 Distinguish between normal and abnormal results.

8.5 Recognize common pathology.

9. Participate in interventional and vascular imaging procedures.

9.1 Explain the gross anatomy and relational physiology as related to vascular and interventional procedures.

9.2 Recognize common pathology related to the vascular and interventional studies.

9.3 Prepare contrast media using the automatic contrast injector.

9.4 Observe acquisition and post-processing of imaging procedures.

10. Synthesize collected evidence to support study proficiency.

10.1 Set rotational goals.

10.2 Collect evidence that supports skill development.

10.3 Reflect on his/her individual progress and make adjustments as required.

10.4 Seek assistance when required.

10.5 Organize evidence succinctly and creatively.

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of Anderson College programs, the student will:

Learn

Students will actively and independently acquire, apply, and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.

Think

Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.

Communicate

Students will exchange ideas and information with clarity and originality in multiple contexts.

Integrate

Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.

Act

Students will act purposefully, reflectively, and respectfully in diverse and complex environments.

EVALUATION

COLLEGE GRADING SYSTEM

Students must achieve 100% of the competencies to be successful in the course. Students are also expected to make-up any clinical placement days/hours that were missed and must complete a total of **337.5** hours at the end of this course.
Students will not progress in the program without achieving a passing grade in the course.

COURSE EVALUATION

Required Logbook Lines and Required Competencies	60%
Additional Logbook Lines and Additional Competencies	40%
TOTAL	100%

ASSESSMENT RATIONALE/ CRITERIA

Achievement of learning outcomes will be assessed through class participation, class work, group activity, assignment, tests, project, mid-semester examination, and end of semester examination. Assessment will require students to demonstrate understanding and application of all the topics taught.

LEARNING MATERIALS

REQUIRED TEXTS

McQuillen-Martensen, K. (Last Published). Radiographic Image Analysis (Current ed.). W. B. Saunders Company.

SUGGESTED READINGS

To be determined by the instructor.

REFERENCE TEXTS AND MATERIALS

To be determined by the instructor.

TEACHING/LEARNING STRATEGIES

Students must be prepared for the clinical environment and learning activities. Students are expected to promptly arrive to their clinical site; become familiar with various medical imaging equipment; adhere to all safety requirements; follow radiographic procedures and site protocols; use various computer systems; manage and deliver patient-centered care; and behave in a professional and ethical manner as stipulated by the clinical site and CAMRT professionalism statement. Adherence to confidentiality of patient medical record and other information, as well as clinical site information, is required.

Personal study before and after the clinical shift and use of online resources are essential. Use of mobile phones is limited to breaks and not permitted in patient areas.

COLLEGE POLICY STATEMENTS

Refer to the clinical site policies, procedures and protocols. Also refer to Anderson College Student Handbook for further information.

ACADEMIC RESPONSIBILITY – STUDENTS

1. Each student must know the dates of clinical assessments.
2. Each student must maintain their own academic record of work covered each semester.
3. Each student must maintain paper and electronic copies of assessments for each semester.
4. Each student must arrange discussion time with a clinical educator to discuss clinical progress.
5. Each student must perform self-evaluation on progress in the clinical environment.

PERSONAL CONDUCT – STUDENTS

1. Students must arrive on time for clinical practice, dressed in appropriate clinical attire, and be prepared to work.
2. Students must be courteous to classmates, clinical instructors, employees, faculty, patients and their families.
3. Eating in the medical imaging rooms and surrounding patient areas is not allowed.
4. Mobile phones, Text messengers and other electronic devices must be turned off.

ACADEMIC ADVANCEMENT

At mid-point and at the end of each Clinical Placement, the clinical educator and faculty for the Medical Radiography Technology program meet to review the progress of all students. Following these meetings each student is advised orally and in writing of their status in the program.

Students experiencing difficulty at clinical will be counseled regarding assistance available to foster learning success.

At the end of each semester, the Clinical Instructor, Medical Radiography Technology Program Instructor and or Director of Education will make recommendations after deliberating on all relevant information. Decisions regarding each student may include (but are not limited to) the following. S/he has:

- Successfully completed all program requirements and can progress to the next semester.
- Successfully completed all clinical requirements and is promoted to the next Clinical Placement level in the program.
- Failing an evaluation, discussions will take place with the clinical instructors and faculty, and a remedial program may be offered. Supplemental privileges are not automatically granted and will be limited in number.
- Not successfully completed all elements in the clinical level, the student is given three opportunities per clinical term to successfully complete evaluations.
- Experienced such difficulty that the student is asked to leave the training program and if s/he desires readmission must complete the admissions process in competition with other applicants.

ATTENDANCE

Attendance is mandatory – The College reserves the right to determine whether absences are excused or unexcused (may affect student funding) and to request any medical evidence that may be required. Student tardiness is unacceptable, and students are expected to demonstrate professional behaviour at all times, in class or on a clinical placement. Students are entirely responsible for catching up on their own or for missed material and demonstrations. A doctor's note may be requested for each absence.

ABSENCE

The College monitors attendance closely. A student who is absent from clinical placement more than 3 times in a semester, will be identified at risk and required to submit a doctor's note or approved excusable absence to their clinical instructor(s) and the program instructor prior to readmission to the clinical environment.

Failure to submit an approved excuse within 5 days upon return, the student will receive a zero for all missed clinical assessments.

MAKE-UP PROCEDURE

All students are expected to take and complete clinical assessments. Make-up assessments will be arranged only in recognized emergency cases. The clinical instructor must be informed before or during the clinical assessment, to be eligible. Clinical assessments are conducted at clinical practice and at the time specified by the clinical instructor. Late students will be given no extra time for completion of clinical assessments.

DISHONESTY AND UNACCEPTABLE BEHAVIOUR

Dishonestly and unacceptable behaviour that goes against clinical practice rules, protocols, and safety procedures will not be tolerated at the clinical environment. Any evidence of dishonesty and unacceptable behaviour at clinical placement will result in a failure for the clinical course. Evidence of dishonesty and unacceptable behaviour will result in a failure for all students involved.

MOBILE PHONE AND LAPTOP COMPUTER

Mobile phones are to be turned completely OFF and kept in lockers if available during clinical placement. Students can access their mobile phones during breaks.

Please use laptop computers responsibly. Web browsing, messaging, emailing, and recording are otherwise prohibited during clinical placement. Students who abuse the privilege of using their mobile phones and laptops will be asked to put them away for the duration of the clinical shift.