



A POLYTECHNIC INSTITUTION

School of Health Sciences

Program: Medical Radiography

Option:

MRAD 4404/4405/4406
Clinical Education

Start Date: 4404 June 1, 2005
4405 September 1, 2005
4406 January 1 2006

End Date: August 31, 2005
December 31, 2005
March 31, 2006

Total Hours: **Total Weeks:** 44

Hours/Week: 40 **Lecture:** **Lab:**

Term/Level: 4/5/6 **Course Credits:** 22/27/21

Shop: **Seminar:** **Other:**

Prerequisites:

Course No. **Course Name**

Successful completion of Level 3

MRAD 4400/5500/ is a Prerequisite for:

Course No. **Course Name**

Successful completion of the Medical Radiography program

Course Description

This ten consecutive month course is designed to provide the student with practical experience in all areas of Medical Radiography. The student will gain this experience under the supervision of the clinical instructor and staff technologists in assigned clinical facilities. At the end of this course, in addition to demonstrating a high standard of professional behaviours, the student will have developed into a competent technologist able to meet the radiographic requirements of any general radiographic imaging department.

Course Learning Outcomes/Competencies

The course outcomes correspond with the published CAMRT competency profile

Upon successful completion, the student will be able to:

1. provide safe care for all patients.
2. consistently apply satisfactory positioning and technique skills that result in diagnostic films.
3. carry out radiation safety precautions for all patients, staff, and self as designated by provincial and national radiation protection codes.
4. handle the required equipment in a competent manner.
5. prepare the radiographic room for all examinations to be done.
6. keep the work area clean and stocked.
7. judiciously use the material resources.
8. communicate effectively with all individuals with whom he/she has contact.
9. interact appropriately with all members of the health care team.
10. document information as necessary for each procedure undertaken.
11. competently critique all radiographs.
12. organize and perform work efficiently while working as an effective team member.
13. carry out the organizational policies and procedures of a department of radiology (Imaging Dept.).

Evaluation

Satisfactory

In order to receive a satisfactory standing, the student must:

- achieve competency for all the objectives as stated in the course outline and student manual.
- meet the volume, quality and percentage requirements of the Record of Clinical Experience.
- be certified competent in all aspects of general radiography (technical, patient procedures, patient care, professional behaviours and attitudes).
- demonstrate professional behaviours and practice.
- successfully complete a project consistent with BCAMRT/CAMRT competition requirements.

Unsatisfactory

A student may be considered to have an unsatisfactory standing if:

- objectives are not met.
- improvement strategies do not result in meeting of objectives.
- progress requirements for Record of Clinical Experience are not satisfactorily met.
- difficulty is demonstrated with the academic portion of the training.

An unsatisfactory standing will be given upon consultation with the clinical site, clinical coordinator and Program Head. Improvement strategies must have been attempted and documented prior to giving of an unsatisfactory standing.

- all situations resulting in an unsatisfactory standing will be reviewed with the student.
- additional tasks and strategies to be assigned by the clinical instructor.
- a student may be placed on provisional when an unsatisfactory standing has not been cleared.
- a student must obtain two consecutive satisfactory evaluations for any failed objectives.
- the clinical instructor may request assistance from BCIT clinical coordinators in dealing with an unsatisfactory standing.
- a student must clear all unsatisfactory objectives by end of Level 6 clinical term.
- student will be unable to write the national registry exams given by the CAMRT until any unsatisfactory objectives are cleared.

Formative Evaluations

Formative Technical Skills Evaluations

This general form is to be completed by staff technologists or CI's working with students. Evaluations are generally done every two (2) weeks for the first three (3) months and then monthly. Additional evaluations are done when students start a new area or at the discretion of the CI. This evaluation can be used in the following manner:

- one case at a time
- over a period of time (1 day, 1 week)
- for a specific rotation

Professional Behaviours and Practice

Students are required to successfully attain Professional Behaviour in Practice assessments in the clinical area by supervising technologists and the clinical instructor. Evaluations are generally done every two (2) weeks for the first three (3) months and then monthly. Additional evaluations are done when students start a new area or at the discretion of the CI. Unsuccessful PBP's will be repeated.

Evaluation of Competency: Record of Clinical Experience and Competence

Record of Clinical Experience and Competence

This record is divided into competency and radiographic critique logs of anatomical and radiographic specialty areas as well as sections for quality control, patient care and professional deportment. The Record of Clinical Competency must be completed and should demonstrate a variety of case types before it will be signed by

the Clinical Instructor and submitted to the Program Head to signify completion of the program. The cases entered in the record must be done unassisted and be of superior quality.

Competency Critique Log

Competency assessments are completed by the CI or designate and are based on the clinical evaluation objectives. Competencies must demonstrate a variety of case types. Of the entered competencies:

- 2/3 (or 66%) must have a satisfactory standing in each anatomical section. If an insufficient number of satisfactory competencies are achieved, further competency assessments will be required using the clinical competency evaluation form which will be attached to the back of the Record.
- minimum of 5% of the required competencies to be satisfactorily completed by the end of Level 4
- minimum of 15% of the required competencies to be satisfactorily completed by the end of Level 5
- 100% of the required competencies to be satisfactorily completed at the end of the Level 6

Radiographic Critique Log

Cases entered in the Radiographic Critique Log of the Record are not required to be done with the CI, but can be done with an RTR. Cases entered must be of superior diagnostic quality in order to be acceptable. Of the entered cases, a minimum of :

- 25% must be completed at the end of Level 4
- 50% must be completed at the end of Level 5
- 100% must be completed by the end of Level 6.

Quality Control Section

Exposure to the required tasks will be ensured.

Patient Care Section

Assessments for this section of the Record will be ongoing during competency assessments.

Professional Deportment Section

Assessments for this section of the Record will be ongoing during competency assessments and through PBP evaluations.

Clinical Evaluation Summaries for Level 4/5/6

Department Orientation Evaluation

This evaluation will be completed by the CI within the first month of Level 4 and submitted to BCIT with the Level 4 summary assessment.

Level 4 Clinical Evaluation Summary

This is a compilation of information from the formative evaluations and completed requirements of the Record of Clinical Experience and Competency. These summary will be submitted to BCIT and along with the submitted project outline will constitute the grade assessment of Level 4.

Level 5 Clinical Evaluation Summary

This is a compilation of information from the formative evaluations and completed requirements of the Record of Clinical Experience and Competency. The completed Level 5 summary will be submitted to BCIT and along with the submitted completed project and will constitute the grade assessment of Level 5.

Level 6 Clinical Evaluation Summary

This is a compilation of information from the formative evaluations and completed requirements of the Record of Clinical Experience and Competency. The completed Level 6 summary will be submitted to BCIT and along with the completed Record and will constitute the grade assessment of Level 6.

Class Time

Students will be provided weekly class time of a minimum of two (2) hours. Topics or assignments that will be covered during this time are:

- hospital/departmental/program operational business
- exams
- radiographic exam routines, positioning and technique
- equipment operation — radiographic and processing
- projects
- patient care
- interpersonal aspects of the student experience
- guest lectures from radiologists, senior techs, biomed, etc. (vary, depending upon individual site's resources)

Project

Students will be responsible for submitting one project for assessment. The projects can be done on an individual basis or as a collaborative group. The project topic will vary significantly from site to site, but must relate to an advanced or new procedure or technology in medical radiography. The project can be used as the presentation for the Future Tech Seminar.

Term 4/5 Examinations

The exams are reviewed and updated annually. Students attaining less than 70% on any exam will be required to spend remedial study time in that area and to demonstrate, to the instructor's satisfaction, mastery of the material. The exam schedule is available on the medrad clinical website.

The exams will consist of:

Multiple Choice

There are five (5) multiple choice exams scheduled during the course of the year. A list of competencies that the exam questions are based on will be supplied prior to the writing of the exam for study purposes. The composition of the exams are based on the published CAMRT competencies and what students have learned to date in the program and:

- the first one is entirely clinical (anatomy, pathology, patient care, positioning)
- the second one is entirely sciences (physics, apparatus, specialized imaging, QC, radiation biology, radiation protection, image recording)
- the third and fourth are a mixture of clinical and sciences questions
- the fifth is a mock final "achievement exam" given near the end of Level 6 and consists of two parts to try reflect the certification exam writing experience.

Radiographic Evaluation

There are ten (10) REE's scheduled during the course of the year. These exams are mostly short answer questions and are designed to promote continued studying during the course of clinical education. The exams cover upper/lower extremities, shoulder girdle, pelvic girdle, thoracic cage, respiratory system, venous system, vertebrae, abdominal, digestive system, biliary system, urinary system, reproductive system, mobile, operating room, mammography, angiography

Clinical Rotations

Approximately 50% of a student's year will be spent gaining proficiency in general procedures. Students may be assigned an additional clinical rotation in order to gain additional experience.

The four (4) general department rotations are:

- weekdays day shift
- afternoons (6-8 weeks)
- weekends (7-9 weekends – Sat and Sun)
- nights (2-5 shifts)

Students will rotate through various imaging areas to achieve proficiency in:

- fluoro
- OR/mobiles
- IVP

Students will also gain introductory **knowledge** of specialized areas by rotating through:

- special procedures
- CT (3 week rotation)
- MR (where available)
- mammography

Overtime, Holidays and Sick Time

Students are not required to work statutory holidays. Vacation time must have the clinical instructors approval and will be required to be made up during April. Overtime will only be allowed at the discretion of the CI for the benefit of enhancing the student's clinical experience. All OT accrued in Level 4 must be taken by the end of Level 4 and all OT accrued during Level 5 must be taken by the end of Level 5. Any OT accrued in Level 6 must be taken by Feb 28th.

Sick time (up to a maximum of five days) may be as required (doctor's certificate may be requested for absences of 3 days or more). More than five (5) days sick time will be required to be made up.

Withdrawal from Clinical Education

Mandatory Withdrawal


- Students will be withdrawn from the clinical environment if patient safety is an issue or if students are unable to physically engage and undertake all required activities. Example of grounds for withdrawal from clinical can be found in the student policy manual.

Voluntary Withdrawal

Students may voluntarily withdraw from Clinical Education MRAD 4404/4405/4406. Counselling with respect to career choices is available to all students.

Verification

I verify that the content of this course outline is current.



Authoring Instructor



Date

I verify that this course outline has been reviewed.



Program Head/Chief Instructor



Date

I verify that this course outline complies with BCIT policy.



Dean/Associate Dean



Date

Instructor(s)

Students will gain experience under the supervision of the instructor and hospital technologists. For contact information refer to the BCIT medrad website.

Learning Resources

Required:

Record of Clinical Experience
program required textbooks

Student Policy Manual
Student clinical positioning handbook

Information for Students

Attendance: The attendance policy as outlined in the current BCIT Calendar will be enforced.

Course Outline Changes: The material or schedule specified in this course outline may be changed by the instructor. If changes are required, they will be announced.

Misconduct: Students are expected to conduct themselves appropriately at all times. This applies to any institutional related activity on or off campus. Misconduct is defined as any action that is detrimental to the interest of the Institute or safety of others can be found on the BCIT website

If it appears to be a criminal matter, the Director of Safety and Security will be notified and consulted.

All institute policies are available for review at <http://www.bcit.ca/about/administration/policies.shtml>.