



A POLYTECHNIC INSTITUTION

School of Health Sciences  
Program: Medical Radiography  
Option:

**MRAD 2214**  
**Radiographic Anatomy and Physiology**

<b>Start Date:</b>	September, 2006	<b>End Date:</b>	December, 2006
<b>Total Hours:</b>	8	<b>Total Weeks:</b>	4
	15		5
<b>Hours/Week:</b>	2	<b>Lecture:</b>	1
	3	<b>Lab:</b>	1
		<b>Shop:</b>	
		<b>Seminar:</b>	
		<b>Other:</b>	

**Prerequisites**

<b>Course No.</b>	<b>Course Name</b>
Level 1 Courses	

**MRAD 2214 is a Prerequisite for:**

<b>Course No.</b>	<b>Course Name</b>
Level 3 Courses	

■ **Course Description**

The content covered in Level 2 is an overview of major organ systems in the human body.

- To provide students with the knowledge necessary to make informed decisions about technique changes and patient care associated with different anatomical structures and conditions.
- To identify a select group of anatomy structures and systems as they appear radiographically.
- To give students a broader knowledge of major anatomical structures and systems.

■ **Detailed Course Description**

1. describe structure, function and relative positions of bony structures and organs in the body.
2. locate internal structure using surface landmarks.
3. relate changes in organ position to changes in body position.
4. recognize and relate variations in organ locations based on bodily habitus.
5. identify on radiographs body organs including both contrast and noncontrast procedures.
6. plan changes in radiographic technique and positioning to best demonstrate required structures.
7. identify major body structures displayed on sectional images.

■ **Evaluation**

Weekly Quiz	10%
Midterm: Lecture/Lab	45%
Final: Lecture/Lab	45%
<b>TOTAL</b>	<b>100%</b>

Comments: The pass mark for all subjects in the Medical Radiography program is 65%.

### ■ Course Learning Outcomes/Competencies

The following student outcomes statements are identified with the relevant critical task (CT) for competency according to the CAMRT guidelines (Oct 1999 revised).

Upon successful completion, the student will be able to:

1. describe structure, relationship and position of vertebrae and thoracic cage.
  - A1.4 Evaluate the correlation between clinical information provided and the requested examination.
  - A3.2 Confirm clinical information with the patient or clinical staff, adjusting the examination when necessary.
  - A3.6 Educate the patient, family and others about the procedure.
2. describe structure, position and function of gastrointestinal, urinary, biliary and upper respiratory systems.
  - A3.2 Confirm clinical information with the patient or clinical staff.
  - A4.4 Use touch for guidance, safety and comfort.
  - A4.5 Touch the patient at the required anatomical landmark(s).
  - A4.6 Position the patient to demonstrate the required anatomical structures.
  - A4.7 Use immobilization and positioning aids as required.
  - A4.8 Direct beam, angling as required, to demonstrate all required anatomical structures.
  - A4.9 Align the imaging system with the required anatomical structures.
3. locate bony and non-bony structures using surface anatomy and landmarks.
  - A4.5 Touch the patient at the required anatomical landmark(s).
  - A4.6 Position the patient to demonstrate the required anatomical structures.
  - A4.7 Use immobilization and positioning aids as required.
  - A4.8 Direct beam, angling as required, to demonstrate all required anatomical structures.
  - A4.9 Align the imaging system with the required anatomical structures.
4. evaluate radiographs for variation in organ and bony structures.
  - A4.6 Position the patient to demonstrate the required anatomical structures.
  - A4.8 Direct beam, angling as required, to demonstrate all required anatomical structures.
  - A4.9 Align the imaging system with the required anatomical structures.
  - A5.7 Select/Modify exposure factors on the basis of technical consideration.
  - A5.8 Select/Modify exposure factors on the basis of the patient considerations.
5. identify on radiographs all structures covered in course.
  - A7.3 Identify anatomy and patient position on the image.
  - A7.4 Verify that required structures are demonstrated.
  - A7.6 Determine whether the diagnostic quality of the image is acceptable.
  - A7.7 If image is unacceptable, determine the reason

■ **Course Learning Outcomes/Competencies (cont'd.)**

6. identify major internal structures presented in a sectional imaging format.

- A1.6 Plan the radiographic imaging procedure.
- A4.1 Plan/Adapt positioning requirements according to patient condition.
- A7.6 Determine whether the diagnostic quality of the image is acceptable.
- A7.7 If image is unacceptable, determine the reason.
- A7.9 Confirm that any pathologies and anomalies are adequately visualized.
- A7.12 Evaluate the need for additional views and perform if required.

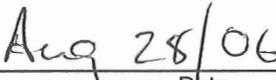
7. identify pathologies covered in the course when presented on radiographs.

- A7.3 Identify anatomy and patient position on the image.
- A7.4 Verify that required structures are demonstrated.
- A7.6 Determine whether the diagnostic quality of the image is acceptable.
- A7.7 If image is unacceptable, determine the reason.
- A7.9 Confirm that any pathologies and anomalies are adequately visualized.
- A7.12 Evaluate the need for additional views and perform if required.

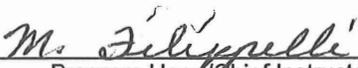
■ **Verification**

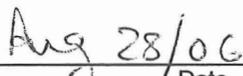
I verify that the content of this course outline is current.

  
\_\_\_\_\_  
Authoring Instructor

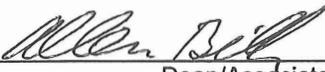
  
\_\_\_\_\_  
Date

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

Note: Should changes be required to the content of this course outline, students will be given reasonable notice.

■ **Instructor(s)**

Rita McLaughlin

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■ **Learning Resources**

**Required:**

A comprehensive anatomy and physiology textbook such as

- *Principles of Anatomy and Physiology*, 9<sup>th</sup> ed. Tortora and Grabowski. Lippincott\*\*
- *Fundamentals of Anatomy and Physiology* by Martini
- *Human Anatomy and Physiology* by Marieb
- *Clinically Oriented Anatomy* by Moore and Agur

\*\* On the CAMRT recommended textbook list

Also

*Radiographic Anatomy and Physiology*, (manual)

*CAMRT Curriculum Guide for Radiography Programs* (on the CAMRT website)

**Recommended:**

(As listed for CAMRT exam validation)

*Any Cross Sectional textbook*

*Medical Dictionary*

■ **Information for Students**

*(Information below can be adapted and supplemented as necessary.)*

The following statements are in accordance with the BCIT Student Regulations Policy 5002. To review the full policy, please refer to: <http://www.bcit.ca/~presoff/5002.pdf>.

**Attendance/Illness:**

In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with his/her instructor or Program Head or Chief Instructor, indicating the reason for the absence. Prolonged illness of three or more consecutive days must have a BCIT medical certificate sent to the department. Excessive absence may result in failure or immediate withdrawal from the course or program.

**Academic Misconduct:**

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited and will be handled in accordance with the 'Violations of Standards of Conduct' section of Policy 5002.

■ **Assignment Details**