



A POLYTECHNIC INSTITUTION

School of Health Sciences
Program: Medical Radiography
Option:

MRAD 2214
Radiographic Anatomy and Physiology

Start Date:	September, 2003	End Date:	December, 2003
Total Hours:	28	Total Weeks:	7
Hours/Week:	4	Lecture:	2
		Lab:	2
		Term/Level:	2
		Course Credits:	2
		Shop:	
		Seminar:	
		Other:	

Prerequisites

Course No.	Course Name
Level 1 Courses	

MRAD 2214 is a Prerequisite for:

Course No.	Course Name
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 positing 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%
TOTAL		<u>100%</u>

Comments: The pass mark for all subjects in the Medical Radiography program is 60%.

■ 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 Correlate clinical information to the prescribed examination.
 - A3.2 Verify clinical information with the patient or clinical staff.
 - A3.6 Explain the procedure to the patient.

2. describe structure, position and function of gastrointestinal, urinary, biliary and upper respiratory systems.
 - A3.2 Verify clinical information with the patient or clinical staff.
 - A4.4 Use touch for guidance, safety and comfort.
 - A4.5 Touch the patient at the anatomical landmark(s) required for positioning for the examination.
 - A4.6 Position the patient to demonstrate the required anatomical structures.
 - A4.7 Use immobilization and positioning aids as required.
 - A4.8 Direct the central ray to the correct anatomical landmark(s).
 - 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 anatomical landmark(s) required for positioning for the examination.
 - A4.6 Position the patient to demonstrate the required anatomical structures.
 - A4.7 Use immobilization and positioning aids as required.
 - A4.8 Direct the central ray to the correct anatomical landmark(s).
 - 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 the central ray to the correct anatomical landmark(s).
 - A4.9 Align the imaging system with the required anatomical structures.
 - A5.7 Select appropriate kV, mA and time or automatic exposure control parameters.
 - A5.8 Modify exposure factors on the basis of the patient's age, physique and condition.

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 the examination according to patient condition, to minimize patient discomfort.
- 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 Determine whether additional views are 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 Determine whether additional views are required.

■ **Verification**

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

M. DiLippelli
Authoring Instructor

Aug 29/03
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.

John H. Emie
Dean/Associate Dean

August 29 2003
Date

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

■ Instructor(s)

Mary Filippelli

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■ Learning Resources

Required:

Principles of Anatomy and Physiology, Tortora and Anagnostakos
Radiographic Anatomy and Physiology, (manual)
CAMRT Curriculum Guide for Radiography Programs

Recommended:

(As listed for CAMRT exam validation)

Basic Physiology and Anatomy, Chaffee and Lytle
Atlas of Human Cross Sectional Anatomy, Cahill and Orland
The Anatomy Coloring Book, Kapit and Elson

■ Information for Students

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

Assignments: Late assignments, lab reports or projects will **not** be accepted for marking. Assignments must be done on an individual basis unless otherwise specified by the instructor.

Makeup Tests, Exams or Quizzes: There will be **no** makeup tests, exams or quizzes. If you miss a test, exam or quiz, you will receive zero marks. Exceptions may be made for **documented** medical reasons or extenuating circumstances. In such a case, it is the responsibility of the student to inform the instructor **immediately**.

Ethics: BCIT assumes that all students attending the Institute will follow a high standard of ethics. Incidents of cheating or plagiarism may, therefore, result in a grade of zero for the assignment, quiz, test, exam, or project for all parties involved and/or expulsion from the course.

Attendance: The attendance policy as outlined in the current BCIT Calendar will be enforced. Attendance will be taken at the beginning of each session. Students not present at that time will be recorded as absent.

Illness: A doctor's note is required for any illness causing you to miss assignments, quizzes, tests, projects, or exam. At the discretion of the instructor, you may complete the work missed or have the work prorated.

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 in class.

■ Assignment Details

Schedule

	Week of	Set	Lecture	Lab
1	Sept 1	C/D	Ribs, Sternum	Ribs, Sternum
2	Sept 8	A/B	Ribs, Sternum, Trachea, Pharynx/Larynx	Ribs, Sternum, Trachea, Pharynx/Larynx
3	Sept 15	A/B	GI System	GI System
4	Sept 22	C/D	Trachea, Pharynx/Larynx, GI System	Trachea, Pharynx/Larynx, GI System
5	Sept 29	C/D	Urinary System	GI System, Urinary System
6	Oct 6	A/B	Urinary System	GI System, Urinary System
7	Oct 13	A/B	Thanksgiving Day Biliary System	Biliary System
8	Oct 20	C/D	Biliary System	MIDTERM
9	Oct 29	A/B	Biliary System	MIDTERM
10	Nov 3	A/B	Biliary System	Biliary System
11	Nov 10	C/D	Remembrance Day Biliary System	Biliary System
12	Nov 17	C/D	Biliary System	Biliary System
13	Nov 24	A/B	Reproductive System	Reproductive System
14	Dec 1	C/D	Reproductive System	Reproductive System
15	Dec 9	ALL	FINAL EXAM	