



A POLYTECHNIC INSTITUTION

School of Health Sciences

Program: Medical Radiography Technology

Option:

MRAD 3500**Clinical Applications in Computed Tomography****Start Date:** January 2006**End Date:** April 2006**Total Hours:** 32 **Total Weeks:** 16**Term/Level:** 3 **Course Credits:** 2**Hours/Week:** 2 **Lecture:** 2 **Lab:****Shop:** **Seminar:** **Other:****Prerequisites****MRAD 3500 is a Prerequisite for:****Course No. Course Name****Course No. Course Name**

MRAD 4400 Clinical Education 4

■ Course Description

This course will provide the students with the basic skill set to perform common CT scan examinations. Students will cover the anatomy/physiology, technical/equipment requirements, patient care requirements and acceptability image criteria. Discussion will focus on practical applications as currently performed in the clinical environment.

■ Detailed Course Description

This course will provide the students with fundamental knowledge of Computed Tomography Scanning. The students will primarily focus on basic CT scan protocols for the head, neck, chest, abdomen and pelvis, spine and extremities. Specialized examinations will also be covered. Patient care for pre, during and post examination will be emphasized. Anatomical considerations in axial, sagittal and coronal plants on CT images will be assessed. Emphasis will be placed on practical application and theoretical concepts of CT imaging.

■ Evaluation

Midterm#1 Examination	25%
Midterm #2 Examinatin	25%
Assignment	10%
Final Examination	40%
TOTAL	100%

Comments: 60% is the required pass mark in this course.

■ Course Learning Outcomes/Competencies

Upon successful completion, the student will be able to:

(Each of the following statements are identified with the relevant Critical Task for Competency (CT) according to the CAMRT publication January 2002).

	Learning Outcomes	CT
1	Provide students with CT terminology and anatomical landmarks.	A4.2
2	Interpret a radiography request for CT scan examination.	A1
3	Prepare the patient for the CT examination.	A3, A4, C
4	Provide a non-threatening environment through patient communication.	C1, C2, C3
5	Explain the procedure, use of a contrast injection and aftercare to the patient.	A3.6, C2, C5
6	Communicate with the healthcare team (family physician, radiologists, support staff).	E2
7	Position the patient to demonstrate the required anatomical structures.	A4.5, A6, A7
8	Provide alternate methods of examination based on patient restrictions.	A7.10
9	Select appropriate technical parameters on the control panel.	A5, A6.2
10	Identify and evaluate human anatomical structures as shown on cross-sectional images for diagnostic acceptability: • head • chest • abdomen • spine • extremities	A7
11	To identify common pathologies as demonstrated by CT.	A7.3
12	Provide students with adequate exposure, analysis and discussion of axial, coronal and sagittal CT images.	A7
13	Evaluate resultant radiation exposure readings in keeping with safety standards.	B1, B5
14	Evaluate and provide solutions for equipment malfunctions.	D2
15	Use all auxiliary life support equipment.	C4, C5
16	Use all accessory radiographic equipment.	E2

■ Verification

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


Authoring Instructor

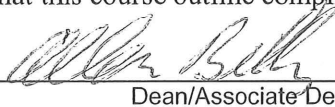
Dec 5, 2006
Date

I verify that this course outline has been reviewed.


Program Head/Chief Instructor

Dec 6/05
Date

I verify that this course outline complies with BCIT policy.


Dean/Associate Dean

Dec. 6/05
Date

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

■ Instructor(s)

Lois Doody RTR, ID, Med	Office Location: SW3-4084	Office Phone: 432-8336
	Office Hrs.: Mon-Tue and Thurs-Fri	E-mail Address: ldoody@bcit.ca
	0830-1630	

■ Learning Resources

Required:

Comprehensive Anatomy and Physiology reference textbooks.
Material to be distributed as required.

Reference Texts:

Seeram, Euclid, RT ®, BSc, MSc, FCAMRT (2001) *Computed Tomography: Physical Principles, Clinical Applications, and Quality Control*. Pennsylvania: W.B. Saunders Company.

Berland, Lincoln L., MD (1987). *Practical CT Technology and Techniques*. New York: Raven Press.

Silvermand, Paul M. MD (1984). *Handbook of Helical (Spiral) Computed Tomography Techniques and Protocols*, Mallinckrodt Medical, Inc.

Chiu, Lee C., MD, Lipcamon, James D. RT (R), & Yoi-Chiu, Victoria S., MD (1995). *Clinical Computed Tomography for the Technologist* (2nd ed.). New York: Raven Press.

Rogalla, P., Mutze, S., & Hamm, B. (1997) *Body CT* (2nd ed.) W. Zuckschwerdt Verlag: New York.
Current Journals.

■ 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>.

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.

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.

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.

Attempts:

Students must successfully complete a course within a maximum of three attempts at the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from their respective program.

Accommodation:

Any student who may require accommodation from BCIT because of a physical or mental disability should refer to BCIT's Policy on Accommodation for Students with Disabilities (Policy #4501), and contact BCIT's Disability Resource Centre (SW1-2300, 604-451-6963) at the earliest possible time. Requests for accommodation must be made to the Disability Resource Centre, and should not be made to a course instructor or Program area.

Any student who needs special assistance in the event of a medical emergency or building evacuation (either because of a disability or for any other reason) should also promptly inform their course instructor(s) and the Disability Resource Centre of their personal circumstances.

■ **Assignment Details**

TBA

■ **Internet Site References**

<http://www.med.harvard.edu/AANLIB/home.html>

<http://www.ctisus.org/mdctprotocols/index.html>

<http://www.vh.org/adult/provider/radiology/NormalRadAnatomy/Index.html>

<http://www.netanatomy.com/>

<http://www.multislice-ct.com/www/>

<http://www.halls.md/ct/ct.htm>

CT Teaching files: <http://www.ctisus.com/tf/>

The Visible Human Project: http://www.nlm.nih.gov/research/visible/frozen_ct.html

<http://www.vh.org/Providers/TeachingFiles/NormalRadAnatomy/Text/Rad/M1title.html>