BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

Course Outline

School of Health Sciences
Program: Medical Imaging
Option: Medical Radiography

MRAD 1106
Radiographic Procedures 1

Start Date:	January 2001	**End Date:**	April 27th, 2001

Hours/Week	9	**Total Hours:**	153	**Term/Level:**	1
Lecture:	4	**Total Weeks:**	17	**Credits:**	9.5
Lab:	5				
Other:					

Prerequisites

Course No.	Course Name

is a Prerequisite for:

Course No.	Course Name
MRAD 2206	Radiographic Procedures 2

Course Description

This course introduces the field of radiography including the principles and terminology of imaging procedures. Emphasis will be placed on patient preparation and care as well as positioning and techniques for examinations of upper and lower extremities, pelvis, chest and abdomen. The course also covers all factors affecting radiographic technique and quality. Skills to evaluate the diagnostic and technical acceptability of the radiographs for each of the respective areas will be developed. Labs will reinforce the theoretical components of the course.

Course Goals

- To introduce students to the field and practice of radiography .
- To understand radiographic procedures necessary to carry out required positioning of upper and lower extremities, pelvis, chest and abdomen.
- To become familiar with basic radiographic positioning principles and medical terminology.
- To develop skills necessary to competently critique radiographs of anatomical positions covered.
- To understand the application of technical and physical principles affecting the radiographic image.
- To develop skills to competently discern diagnostic film quality.

Evaluation

Weekly quizzes		10%
Midterm quizzes	Lecture	20%
	Labs	20%
Project		10%
Laboratory (Positioning)		5%
Final Exam	Lecture/Lab	35%
Total		100%

All laboratory exercises must be satisfactorily completed for a course mark to be received. 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 1997)

1.	describe basic radiographic principles, basic patient positions and radiographic projections.	CT A4
2.	describe the anatomical landmarks and how they relate to the specific positions	CT A4
3.	describe differences in patient body habitus and how it relates to specific positioning requirements	CT A4
4.	explain the basic technical requirements of radiographic examinations	CT A5
5.	identify specific KV ranges as they relate to various anatomical areas	CT A5
6.	in the lab, perform basic radiographic positioning of the upper extremity, lower extremity, pelvis, chest and abdomen	CT A4
7.	explain the relationship between patient position and resultant image	CT A7
8.	identify on radiographs the specific anatomical structures demonstrated, and evaluate for technical quality and diagnostic acceptability	CT A7
9.	offer solutions for correction of technical and position errors	CT A7
10.	explain the influence of varying patient types and technical factors on the radiographic image	CT A7

Course Content Verification

I verify that the content of the course outline is current, accurate and complies with BCIT Policy.

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Program Head/Chief Instructor Date

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

Effective Date

January 2001

Instructor(s)

Mary Filippelli, RTR, MEd Office No.: SW3 4086 Phone: 451-6918

Learning Resources

Required:

- PhilipW. Ballinger *Merrill's Atlas of Radiographic Positions and Radiologic Procedures 9th Editiion*
- McQuillen – Martensen (1996) *Radiographic Critique*
- Mrad 1106 Student Lecture Manual
- Mrad 1106 Laboratory Manual
- Mrad 1106 Positioning Book (Pocket Inserts)

Recommended:

- Bushong, S., Radiologic *Science for Technologists, 6th Edition*
- Cullinan, A.M., *Producing Quality Radiographs, 2nd Edition*

COURSE SCHEDULE

WEEK	1104 LECTURE & LAB	1106 LECTURE	1106 FILM LAB	1106 APPLIED LAB	1106 POSITIONING LAB
1	**Finger, thumb, hand and wrist**	◆ Intro to radiography and basic considerations ◆ Radiographic principles ◆ Basic exposure techniques ◆ Cont'd	Intro to lab area and routine Intro to radiographic image How to view a radiograph Types and sizes of films Marker placement	none	**Orientation**
2	**Forearm, elbow and humerus**	◆ Role Playing ◆ Intro to bone radiography ◆ Fingers and thumb,	How to critque a radiograph	Film comparison - bit differences	**Automatic Processor (start up and shut down)**
3	**Clavicle, shoulder and scapula**	◆ Hand ◆ wrist ◆ Scaphoid ◆ forearm	thumb and finger nad hand		**Role playing**
4	**Toes, foot and ankle**	◆ elbow ◆ humerus ◆ Pediatric considerations to upper extremities	wrist and scaphoid	APPLIED LAB #1 ROOM 4035	**Fingers, thumb and hand**
5	**Tibia, fibula and knee**	**Lecture Quiz #1** Quiz Review ➢ Trauma radiography for Upper extremities ➢ Exposure techniques	Forearm and elbow humerus	APPLIED LAB #2 ROOM 4035	**Wrist and scaphoid**
6	**Femur, hip and pelvis**	◆ Intro to lower extremities ◆ Toes and foot ◆ ankle, calcaneus	**Film Quiz #1**		**Forearm and elbow**

7	**Midterm**	◆ tib/fib ◆ knee ◆ knee ◆ patella	toes and feet		**Humerus**
8	**Intro to bodily habitus Chest**	◆ femur ◆ pelvis ◆ s.i. joints ◆ Pediatric considerations for lower extremities	ankle and calcaneus	APPLIED LAB#3 Room 4035	➢ **New Room Orientation** ➢ **Toes and Feet**
9	**Abdomen**	◆ Lecture Quiz #2 ◆ Quiz Review ◆ Trauma radiography for lower extremities	tib/fib and knee	knee and patella	**Calcaneus and ankle**
10	**Intro to Vertebrae**	➢ Bodily habitus and radiography ➢ Intro to Chest radiography ➢ chest positioning ➢ Trauma chest radiography	Patella and femur and Pelvis	Applied Lab #4 Room 4035	**Tib/Fib and knee**
11		**SPRING BREAK**			
12	**Cervical &Thoracic spine**	➢ Intro to Abdominal radiography ➢ Abdominal positoning ➢ Trauma abdominal radiography	SI jnts andChest		**Patella and Femur**
13	**Lumbar spine**	Pediatric considerations in radiography	**FILM QUIZ #2**	FILM QUIZ REVIEW	**Pelvis and SI Joints**
14	**Sacrum and coccyx SI jnts**	Exposure Techniques	Abdomen	APPLIED LAB #5 ROOM 4035	**Chest**
15	**Ribs, Sternum**	**Review** **Video Projects**	Abdomen	APPLIED LAB #6 ROOM 4035	**Abdomen**
16			**FINAL EXAMS**		