BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

Operating Unit: Health Sciences
Program: Medical Radiography
Option:

Course Outline

MRAD 1106
Radiographic Procedures 1

Start Date: January, 2000 **End Date:**

Course Credits: 9.5 **Term/Level:** 1

Total Hours: 153
Total Weeks: 17

Hours/Week: 9 **Lecture:** 4 **Lab:** 5 **Shop:** **Seminar:** **Other:**

Prerequisites

Course No.	Course Name
As per BCIT Calendar	

MRAD 1106 is a Prerequisite for:

Course No.	Course Name
MRAD 2206	Radiographic Procedures 2

Course Calendar 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 practices 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.

Evaluation

Weekly quizzes	10%
Mid-term exams	
Lecture	20%
Lab	20%
Project	10%
Laboratory (positioning)	5%
Final Exam	35%
Lecture/Lab	
TOTAL	100%

All the 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 of this course, the student will be able to:

(Each of the following statement are identified with the relevant Critical Task for Competency (CT) according to the CAMRT publication Dec. 96.)

1. describe basic radiographic principles, basic patient positions and radiographic projections. (CT A4)
2. describe the anatomical landmarks and how they relate to 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 positioning errors. (CT AT)
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 this course outline is current, accurate, and complies with BCIT Policy.

Program Head/Chief Instructor — Date

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

Instructor(s)

Valerie Palm | Office No.: SW3 4077 | Office Phone: 412-7531
Office Hrs.: As Posted | E-mail Address:

Learning Resources

Required:

- Philip W. Ballinger. *Merrill's Atlas of Radiographic Positions and Radiologic Procedures*, (8th edition).
- McQuillen – Martensen. (1996). *Radiographic Critique*.
- MRAD 1106 Student 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).

1106 itinerary - 2000

Week #	Monday lecture - 1 hr	Tuesday lecture -2hrs	Positioning Lab – 3 hrs PM: Tues - A, Thurs - B	Film Lab Set B Tues 1330	Applied Lab Set B Wed 0830	Applied Lab Set A Thur 0830	Film Lab Set A Thurs 1430	Friday Lecture -- 1 hr. 1330
8 Feb 21 - 25	Calcaneus	Distortion AEC Technique Types of Charts	Ankle, Calcaneus,	Toes & feet Review Film Quiz #1	Applied Positioning Lab # 3	Applied Positioning Lab # 3	Ankle & Calcaneus **Weekly Quiz	MID TERM Lecture exam
9 Feb 28 - Mar 3	Tibia / Fibula	Knee Knee	Tibia/fibula & Knee	Ankle & Calcaneus **Weekly Quiz	Applied Positioning Lab # 4	Applied Positioning Lab # 4	Tibia/fibula & Knee **Weekly Quiz	Patella
10 Mar 6 -10	Femur	Pelvis SI joints	Intercondylar Notch, Patella & Femur,	Tibia/fibula & Knee **Weekly quiz	Applied Positioning Lab # 5	Applied Positioning Lab # 5	Intercondylar Notch, Patella & Femur,	Pediatric Considerations for Lower Extremities
11 Mar 13 -17	Spring Break							
12 Mar 20 - 24	Body Habitus	Intro to Chest Radiography Chest Radiography	Pelvis & SI joints	Intercondylar Notch, Patella & Femur,	Film Quiz # 2	Film Quiz # 2	Pelvis & SI joints	Trauma Chest
13 Mar 27 - 31	Exposure Techniques	Exposure Techniques Lecture Quiz # 2	Chest	Pelvis & SI joints	Applied Positioning Lab # 6	Applied Positioning Lab # 6	Chest **Weekly Quiz	Intro to Abdomen
14 Apr 3 - 7	Abdominal Radiography	Pediatric / Geriatric Considerations Chest & Abdomen	Abdomen	Chest **Weekly Quiz	Film Lab - Chest	Film Lab - Chest	Abdomen **Weekly Quiz	Review Discussions
15 Apr 10 - 14	Review Discussions	Video Projects	Extra Practice	Abdomen **Weekly Quiz	Applied Positioning Lab # 7	Applied Positioning Lab # 7	Review	Review
16 Apr 17 - 20	Final Exam Week							

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1 Jan 4-7			Overview of lab format & expectations, Equipment orientation	Course overview & Intro to film lab area and routine	Intro to Radiographic Image	Course overview & Intro to film lab area and routine	Intro to Radiographic Image	Intro to radiography and basic considerations
2 Jan 10-14	Radiographic Principles and Procedures	Prepare for role play Basic Exposure techniques	Role playing	How to view a radiograph	Types and sizes of films Marker Placement	How to view a radiograph	Types and sizes of films Marker Placement	Intro to Upper Extremities Fingers
3 Jan 17-21	Thumb	Hand	Thumb, fingers and hand	How to critique a radiograph (basic 10 steps	Review	How to critique a radiograph (basic 10 steps	Thumb, finger & hand **Weekly quiz	Wrist
4 Jan 24-28	Scaphoid	Recorded Detail Radiographic Contrast	Wrist & Scaphoid,	Thumb, finger & hand **Weekly quiz	Film comparison - bit differences	Film comparison - bit differences	Wrist & Scaphoid, **Weekly quiz	Forearm
5 Jan 31 - Feb 4	Elbow	Lecture Quiz #1 Elbow cont'd	Forearm &Elbow	Wrist & Scaphoid, **Weekly quiz	Applied Positioning Lab #1	Applied Positioning Lab #1	Forearm, elbow **Weekly Quiz	Humerus
6 Feb 7 – 11	Pediatric/Geriatric Considerations Upper Extremities	Effects of Recorded Detail on Film Trauma Considerations in Upper extremities	Humerus	forearm, elbow **Weekly Quiz	Applied Positioning Lab #2	Applied Positioning Lab #2	Humerus	Intro to Lower Extremities
7 Feb 14 - 18	Toes	Foot Technical Factors Selection	New room orientation Toes and Foot	Humerus	Film quiz #1	Film quiz #1	Toes and Foot Review Film Quiz #1	Ankle