



BRITISH COLUMBIA INSTITUTE OF
TECHNOLOGY

School of Health Sciences
Program: Medical Radiography
Option:

Course Outline **Part A**

MRAD 1102
Image Recording, Equipment and Quality Control 1

Hours/Week:	3	Total Hours:	40	Term/Level:	1
Lecture:	2	Total Weeks:	16	Credits:	3.0
Lab:	1				
Other:					

Prerequisites

MRAD 1102 is a Prerequisite for:

None.

Course Goals

To provide students with the knowledge needed to operate radiographic processing equipment and use accessory radiographic equipment to process and record radiographic images. To help students understand technical and physical principles affecting the radiographic image.

Course Description

This course will explore the fundamentals of radiographic image recording and processing, as well as introduce the basic concepts of processor quality control. Specifically, the following topics will be covered: accessory equipment, the photographic process, recording material, processing, silver recovery, sensitometry, presentation of the image, duplication and subtraction of images, processing artifacts. In this Rad. Evaluation the student will become aware of factors affecting radiographic quality and develop the necessary ability to adjust technical factors.

Evaluation

Final Examination	50%	A grade of 60% is required to pass the course.
Quiz #1	25%	
Quiz #2	25%	
TOTAL	100%	

Course Outcomes and Sub-Outcomes

Upon successful completion of this course, the student will be able to:

1. identify the major components of radiographic, fluoroscopic and tomographic equipment.
2. identify and explain accessory equipment for:
 - a. patients, e.g., immobilization devices,
 - b. radiographic, fluoroscopic and tomographic procedures, e.g., grids, filters, cones, etc.
3. explain the basic principles of the photographic process.
4. explain the conditions of operation for:
 - a. darkroom, e.g., film storage, lighting,
 - b. daylight equipment, e.g., loader and unloader.
5. recognize chemical hazards and apply corrective measures when appropriate.
6. describe the essential features of image recording materials such as x-ray film, intensifying screens, cassettes.
7. identify the elements of radiographic processing and describe the major components of automatic film processors and silver recovery equipment.
8. describe briefly each of the following: duplication and subtraction of radiographic images, image viewing equipment (construction and conditions).
9. describe common faults, causes and corrective measures of processing artifacts.
10. explain the principles of sensitometry.
11. explain how factors in each of the following categories influence darkroom and accessory equipment.
12. the radiographic image: a. technical; b. geometric; c. processing; d. patient.

Course Record

Developed by: G. J. Beck, R.T. (M)
Instructor Name and Department (signature)

Date: December 12, 1998

Revised by: G. J. Beck, R.T. (M)
Instructor Name and Department (signature)

Date: December 12, 1998

Approved by: _____
Associate Dean / Program Head (signature)

Start Date: _____



BRITISH COLUMBIA INSTITUTE OF
TECHNOLOGY

School of Health Sciences
Program: Medical Radiography
Option:

Course Outline **Part B**

MRAD 1102
Image Recording, Equipment and Quality Control 1

Effective Date

January, 1999

Instructor(s)

Gisela Paches

Office No.: SW3-4084
Office Hrs.: Schedule Posted

Phone: 8743

Text(s) and Equipment

Required:

* Bushong, S. Radiologic Science for Technologists. 6th Edition. Mosby-Year Book Inc.

Recommended:

- Carlton, R. & A., Principles of Radiographic Imaging, an Art and a Science, 2nd Edition, Delmar.
- Cullinan, A. & J. Producing Quality Radiographs, 2nd Edition, J.B. Lippincott Co. 1994.
- Currey, T. et al., Chistensen's Introduction to the Physics of Diagnostic Radiology, 5th Edition.
- Gray, J., et al. Quality Control in Diagnostic Imaging, Aspen Publishers Inc.

Course Notes (Policies and Procedures)

Assignment Details