

Minnesota State College Southeast

RADT 2630: Radiographic Imaging 2

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites:

This course requires all four of these prerequisites

RADT 2605 - Radiographic Imaging 1

RADT 2601 - Introduction to Radiologic Sciences

RADT 2617 - Clinical Practicum 1

RADT 2611 - Radiographic Positioning and Procedures 1

Corequisites: None

MnTC Goals: None

This course will present fluoroscopy technology, and digital radiography to the student. This will include digital systems, digital image processing, image quality, and image storage and management. This course will introduce the student to the higher level principles of radiographic exposure and setting appropriate technical factors. Students acquire knowledge of quality management in radiology and apply quality control tests to determine the causes of image problems including equipment malfunctions and procedural errors. Included also are aspects of quality control to external x-ray beam evaluation, repeat rates and protective apparel. Laboratory exercises will emphasize the theories learned. (Prerequisites: RADT2601, RADT2605, RADT2611, RADT2617) (Co-requisite: RADT2625) (3 credits: 2 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 06/16/2009 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Describe special equipment and procedures in related imaging modalities
2. Examine basic principles of digital image acquisition and display
3. Perform & analyze quality control tests
4. Manipulate technical factors according to patient size and subject contrast using a variety of technique charts

D. LEARNING OUTCOMES (General)

1. Outline fundamental principles of exposure related to digital imaging
2. Examine principles of digital image acquisition and display
3. Illustrate the process of image acquisition
4. Produce and view digital images
5. Distinguish the components of a digital image display
6. Identify image acquisition errors and artifacts
7. Analyze the image processing software
8. Evaluate digital images
9. Analyze exposure factor considerations involved in technique selections
10. Summarize the use of automatic exposure control (AEC)
11. Identify the purpose and benefits of quality management programs
12. Explain the difference between QA, QC, and QM
13. Explain The Joint Commission ten-step monitoring and evaluation process and cycle for improving performance
14. Perform and analyze Quality Control tests
15. Summarize the purpose and performance standards of quality control tests for external x-ray beam evaluation
16. Summarize the purpose and performance standards of quality control tests for ancillary equipment
17. Summarize the purpose and performance of repeat rates
18. Identify common radiographic manifestations of equipment malfunctions
19. Examine principles of fluoroscopy guidelines and components
20. Explore concepts of PACS, RIS, HIS, and DICOM of data management

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted