

Minnesota State College Southeast

RADT 2663: Modalities

A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites:

This course requires all three of these prerequisites

RADT 2605 - Radiographic Imaging 1

RADT 2601 - Introduction to Radiologic Sciences

RADT 2611 - Radiographic Positioning and Procedures 1

Corequisites: None

MnTC Goals: None

This online course introduces radiography students to imaging modalities beyond diagnostic radiology. There will be an emphasis of computed tomography (CT) and cross-sectional anatomy. Other modalities include MRI, mammography, ultrasonography, radiation therapy, nuclear medicine, bone densitometry, and cardiac/vascular interventional radiology. During completion of this course, students will be able to observe/participate in these special areas during clinical practicum if it does not interfere with diagnostic radiology experiences or on non-scheduled days. (Prerequisites: RADT2601, RADT2605, RADT2611) (Prerequisite or concurrent: RADT2617) (2 credits: 1 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 02/19/2013 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Obtain working knowledge of CT imaging system that includes equipment and scanning software
2. Introduce student to the following modalities: MRI, Nuclear Medicine, Radiation Therapy, Sonography, Vascular Interventional Radiology, Bone Density, & Mammography
3. Introduce student to the identification of cross-sectional anatomy
4. External Standards:
 1. Modality Exploration and Radiation Therapy
 2. Components, Operations, and Processes in CT
 3. Radiation Protection in CT and other modalities
 4. Anatomical Nomenclature
 5. Sectional Anatomy

D. LEARNING OUTCOMES (General)

1. Discuss the History of CT
2. Describe components of the CT imaging system
3. Define and apply CT terminology
4. Examine the CT image processing steps
5. Outline acquisition protocols for select exams
6. Compare patient preparation and contrast media considerations
7. Discuss advanced CT exam specialties
8. Identify the types and appearance of artifacts most commonly affecting CT images
9. Recognize anatomic planes and positions
10. Identify selected neck and head anatomical structures in gross and cross-section views
11. Identify selected thoracic anatomical structures in gross and cross-section views
12. Identify selected abdominal and pelvic anatomical structures in gross and cross-section views
13. Identify radiation protection for CT
14. Identify the "Image Gently" campaign
15. Review basic physical principles of MRI, Ultrasound, Cardiac/Vascular Interventional, Nuclear Medicine, Radiation Therapy, and Mammography and Bone Density (DEXA)
16. Outline the purpose and function of the imaging modality departments
17. Identify image types and appearances from each modality
18. Summarize the educational requirements and job outlook of each modality

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted