

RADT 66 Course Outline as of Spring 2011**CATALOG INFORMATION**

Dept and Nbr: RADT 66 Title: SPECIAL MODALITIES

Full Title: Special Modalities

Last Reviewed: 9/25/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	4.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	6.00		Contact Total	105.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 210.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

Principles of special procedures and specialized imaging modalities. Principles of venipuncture, computerized tomography, fluoroscopy and its related equipment. Demonstration and practice of venipuncture.

Prerequisites/Corequisites:

Course Completion of RADT 63B and Concurrent Enrollment in RADT 62BL and Concurrent Enrollment in RADT 65

Recommended Preparation:**Limits on Enrollment:****Schedule of Classes Information:**

Description: Principles of special procedures and specialized imaging modalities. Principles of venipuncture, computerized tomography, fluoroscopy, and its related equipment. Demonstration and practice of venipuncture. (Grade Only)

Prerequisites/Corequisites: Course Completion of RADT 63B and Concurrent Enrollment in RADT 62BL and Concurrent Enrollment in RADT 65

Recommended:
Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:	Transferable	Effective: Fall 1981	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:

Upon completion of this course students will be able to:

- 1.Explain the steps of operation of a medical fluoroscopic imaging system.
2. Describe the direct correlation between the patient radiation dose and use of fluoroscopy.
3. Apply principles of radiation protection to self, patients, and other personnel.
4. List all sequential operations of all major radiographic equipment in an angiography suite.
5. Identify viscera, vascular, and lymphatic systems, lungs and heart, and brain on radiographic images.
6. Apply all routine angiographic procedures.
- 7.List the components of a computerized tomography scanner.
8. Perform venipunctures in medical imaging environments.

Topics and Scope:

1. Principles of fluoroscopy
 - A. Overhead X-ray tube
 - B. Undertable X-ray tube
 - C. Mobile unit
 - D. Digital fluoroscopy
2. Operation of fluoroscopic imaging systems
 - A. X-ray tube
 - B. Vidicon, plumbicon
 - C. Image intensifier
 - D. Video recorder
 - E. Cine camera

- F. High resolution radiographic tube
- G. Digital fluoroscopy
- 3. Patient radiation dose in fluroscopy
 - A. Primary radiation
 - B. Secondary and scatter radiation
 - C. Skin dose
 - D. Organ dose
- 4. Types of angiographic equipment, Computerized Tomography (CT), and Magnetic Resonance Imaging (MRI)
 - A. Operational procedures
 - B. Safety procedures
- 5. Radiographic anatomy and medical images of;
 - A. Viscera
 - B. Arterial system
 - C. Venous system
 - D. Lymphatic system
 - E. Lungs and heart
 - F. Brain and vessels
 - G. Anatomy of the eye and the physiology of vision
- 6. Heart catheterization and angiography
 - A. Operational procedures
 - B. Safety procedures
- 7. Venipuncture
 - A. Principles
 - B. Instrumentation
 - C. Regulations
 - D. Practice
- 8. State regulations in fluoroscopy
 - A. Requirements
 - B. Good practice
- 9. Computerized Tomography
 - A. Principles
 - B. Equipment
 - C. Generations
 - D. Procedure protocols
- 10. Filmless and Paperless Radiology
 - A. Picture archiving and communication system (PACS)
 - B. Digital communication
 - C. Radiology information system
 - D. Hospital information system
 - E. Electronic medical records

Assignment:

- 1. Chapter readings (20 pages per week) .
- 2. Completion of a minimum of 10 venipunctures.
- 3. Completion of 4 - 6 research term papers.
- 4. One midterm examination.
- 5. Final examination.
- 6. Completion of a PACS project.
- 7. Fluoroscoupy experiments (12-14)

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Research papers , PACS project, Experiments

Writing
20 - 40%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None

Problem solving
0 - 0%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Performance exams, A minimum of 10 venipunctures

Skill Demonstrations
10 - 30%

Exams: All forms of formal testing, other than skill performance exams.

Midterm and final exams

Exams
40 - 60%

Other: Includes any assessment tools that do not logically fit into the above categories.

None

Other Category
0 - 0%

Representative Textbooks and Materials:

- Merrill's Atlas of Radiographic Positions and Radiologic Procedures, Ballinger, current edition.
- Instructor-prepared material