RADT 66 Course Outline as of Fall 2024

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	3.50	17.5	Lecture Scheduled	61.25
Minimum	4.00	Lab Scheduled	1.50	8	Lab Scheduled	26.25
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 122.50

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:

In this course, students will learn principles of specialized imaging modalities, including principles of venipuncture, computerized tomography, fluoroscopy, and related equipment. Students will practice and demonstrate competence in venipuncture.

Prerequisites/Corequisites: Course Completion of RADT 61C and Concurrent Enrollment in RADT 71D

Recommended Preparation:

Limits on Enrollment:

Acceptance to Program

Schedule of Classes Information:

Description: In this course, students will learn principles of specialized imaging modalities, including principles of venipuncture, computerized tomography, fluoroscopy, and related equipment. Students will practice and demonstrate competence in venipuncture. (Grade Only) Prerequisites/Corequisites: Course Completion of RADT 61C and Concurrent Enrollment in RADT 71D Recommended:

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree: CSU GE:	Area Transfer Area	l	Effective: Effective:	Inactive: 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

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

- 1. Manipulate equipment in special procedure rooms.
- 2. Operate fluroscopes, digital equipment, and computerized tomography.
- 3. Competently perform venipuncture, as permitted by the State of California.

Objectives:

At the conclusion of this course, the student should be able to:

- 1. Explain the steps of operation of a medical fluoroscopic imaging system.
- 2. Describe the direct correlation between patient radiation dose and use of fluoroscopy.
- 3. Apply principles of radiation protection to self, patients, and other personnel.

4. Identify viscera and cardiovascular systems, lungs, heart, brain, and cross-sectional anatomy on radiographic images.

- 5. List the components and operation of a computerized tomography system.
- 6. Perform venipunctures in medical imaging environments.

Topics and Scope:

- I. Principles of Fluoroscopy
 - A. Overhead X-ray tube
 - B. Undertable X-ray tube
 - C. Mobile unit
 - D. Digital fluoroscopy
- II. Operation of Fluoroscopic Imaging Systems
 - A. Digital fluoroscopy
 - B. Post processing capabilities
- III. State Regulations in Fluoroscopy
 - A. Requirements
 - B. Good practice

- IV. Patient Radiation Dose in Fluoroscopy
 - A. Primary radiation
 - B. Secondary and scatter radiation
 - C. Skin dose
 - D. Organ dose
- V. Computerized Tomography (CT)
 - A. Principles
 - B. Equipment and operational procedures
 - C. Patient procedures and safety protocols
- VI. Angiography
 - A. Principles
 - B. Equipment and operational procedures
 - C. Accessory devices
- VII. Radiographic Anatomy and Medical Images
 - A. Visceral organs
 - B. Cardiovascular system
 - C. Lungs
 - D. Heart
 - E. Brain
 - F. Cross-sectional anatomy
- VIII. Venipuncture
 - A. Principles
 - B. Instrumentation
 - C. Regulations
 - D. Practice
- IX. 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

All topics are covered in the lecture and lab portions of the course.

Assignment:

Lecture-Related Assignments:

- 1. Chapter readings (20-40 pages per week)
- 2. Written homework and chapter assignments.
- 3. Completion of modality specific interactive learning modules (6-8)
- 4. Quizzes (10-15)
- 5. Midterm exam (1)
- 6. Final exam (1)

Lab-Related Assignments:

1. Completion of successful venipunctures (10 minimum)

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.

Written homework and chapter assignments 10 - 20% **Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or noncomputational problem solving skills. Problem solving Modality specific module assignments 10 - 20% Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams. **Skill Demonstrations** Completion of successful venipunctures 30 - 40% **Exams:** All forms of formal testing, other than skill performance exams. Exams Quizzes; midterm exam; final exam 30 - 40%

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

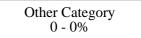
None

Representative Textbooks and Materials:

Merrill's Atlas of Radiographic Positions and Radiologic Procedures. 15th ed. Long, Bruce and Rollins, Jeannean and Smith, Barbara. Elsevier. 2023.

Patient Care in Radiography with an Introduction to Medical Imaging. 10th ed. Ehrlich, Ruth Ann and Coakes, Dawn M. Elsevier. 2021.

Instructor-prepared material



Writing