

# RADT A222: TOPICS IN COMPUTED TOMOGRAPHY

Item	Value
Curriculum Committee Approval Date	10/20/2021
Top Code	122500 - Radiologic Technology
Units	1 Total Units
Hours	27 Total Hours (Lecture Hours 18; Lab Hours 9)
Total Outside of Class Hours	0
Course Credit Status	Credit: Non-Degree Applicable (C)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Pass/No Pass (B)

## Course Description

This course will help prepare the student for the American Registry of Radiologic Technologists (ARRT) certification examination in Computed Tomography. PREREQUISITE: Students will need to be graduates of the OCC Radiologic Technology Program or licensed radiographers by the State of California. NOT DEGREE APPLICABLE. Not Transferable.

## Course Level Student Learning Outcome(s)

1. Develop the critical thinking skills necessary to adjust scanning parameters based on; patient age, suspected pathology, and clinical expectations.
2. Develop the critical thinking skills necessary to obtain high-quality CT images.

## Course Objectives

- 1. Demonstrate the anatomy, physiology, and pathology of the proscribed ARRT required imaging procedures.
- 2. Students will complete the CT Basics Modules 1-12 and successfully pass the assessments at the end of each module; the modules are; 1. Fundamentals 2. Equipment and Instrumentation 3. Data Acquisition 4. Image Processing and Reconstruction 5. Patient Safety 6. Image Quality 7. Procedures 8. Cross-sectional Anatomy of the Head and Neck 9. Cross-sectional Anatomy of the Chest, Abdomen, and Pelvis 10. Additional Applications 11. Pathology Part 1 12. Pathology Part 2

## Lecture Content

Module 1: Fundamentals Module 2: Equipment and Instrumentation  
Module 3: Data Acquisition Module 4: Image Processing and Reconstruction  
Module 5: Patient Safety Module 6: Image Quality  
Module 7: Procedures Module 8: Cross-sectional Anatomy of the Head and Neck  
Module 9: Cross-sectional Anatomy of the Chest, Abdomen and Pelvis  
Module 10: Additional Applications Module 11: Pathology

## Lab Content

Labs will consist of various activities to assess the student's clinical abilities, aptitude for clinical training, and complete the necessary pre-

clinical experiences required to begin clinical training in computed tomography (CT).

## Method(s) of Instruction

- Lecture (02)
- DE Online Lecture (02X)
- Lab (04)
- DE Online Lab (04X)

## Instructional Techniques

Lecture and application of ideas along with lab activities that assess the student's clinical skills.

## Reading Assignments

Students will have a weekly reading assignment consisting of 2 hours focusing on the topics of that week's primary educational goal.

## Writing Assignments

Short answer writing assignments.

## Out-of-class Assignments

Out of class assignments will be primarily reading with the potential for short 'homework' quizzes to reinforce concepts.

## Demonstration of Critical Thinking

Periodic quizzes; examinations; comprehensive final exam; written homework assignments; attendance and participation. Regular and substantive interaction and participation.

## Required Writing, Problem Solving, Skills Demonstration

Periodic quizzes; examinations; comprehensive final exam; written homework assignments; attendance and participation. Regular and substantive interaction and participation. Skills demonstration will consist of lab activities designed to determine the student's clinical abilities prior to clinical placement.

## Eligible Disciplines

Radiological technology. Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

## Textbooks Resources

1. Required Long, et al. Merrill's Atlas of Radiographic Positioning, 14 ed. Elsevier, 2020