

**SOUTHEAST COMMUNITY COLLEGE
HEALTH SCIENCES DIVISION
RADIOLOGIC TECHNOLOGY**

Revision Date: 11/2021

I. CATALOG DESCRIPTION

Course Number: RADT 2503
Course Title: Computed Tomography
Prerequisite(s):

Catalog Description: This course is designed to meet the structured education required by the ARRT for candidates seeking post-primary certification in computed tomography. Students are introduced to patient care; safety issues; overview of equipment; image production; CT procedures; sectional anatomy; scanning protocols; and use of contrast media.

Credit Hours: 1
Class Hours: 16
Lab Hours: 0
Total Contact Hours: 16

II. COURSE OBJECTIVES: *Course will:*

1. Recognize the principles of patient care
2. Identify contrast media and administration
3. Recognize safe practices to protect the patient and practitioner from radiation
4. Distinguish between different types of CT scanners and equipment
5. Recognize image processing and image quality
6. Recognize scanning protocols for specific anatomy.
7. Identify anatomic structures and relate it to sectional anatomy
8. Recognize indications and contraindications for exams

Note: Unit objectives are located in the learning management system within each unit of study

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

1. Correlate theory with clinical practice
2. Identify anatomy and apply to radiographic images
3. Apply scanning protocols to clinical exams
4. Understand the use of contrast agents in exams and possible adverse reactions
5. Apply safe radiation protection and patient dose to CT exams
6. Recognize image quality in relation to image processing, equipment display, and artifacts

B. GENERAL EDUCATION LEARNING

OUTCOMES GELO 3: Critical Thinking

Synthesize information to arrive at reasoned solutions to problems

IV. CONTENT OUTLINE

A. PATIENT INTERACTIONS AND MANAGEMENT

1. Patient Care Techniques
2. Clinical History, Assessment, and Consent
3. Monitoring of Patient, Lab Values, Medication and Dosage

B. CONTRAST ADMINISTRATION

1. Types, Administration and Dose Calculations
2. Injection Technique, Post-Procedure Care, and Adverse Reactions

C. RADIATION SAFETY AND DOSIMETRY

1. Radiation Physics
2. Technical Factors
3. Radiation Protection and Shielding
4. Measurement, Administration and Optimization of Dose

D. PHYSICS AND INSTRUMENTATION

1. Equipment
2. Image Processing and Display, Image Quality, and Artifacts
3. Storage and Networking

E. NEURO

1. Head and Neck Anatomy
2. Routine Scanning Protocols
3. Special Procedures Scanning Protocols

F. CHEST

1. Chest Anatomy
2. Routine Scanning Protocols
3. Special Procedures Scanning Protocols

G. ABDOMEN

1. Abdomen Anatomy
2. Routine Scanning Protocols
3. Special Procedures Scanning Protocols

H. PELVIS

1. Pelvis Anatomy
2. Routine Scanning Protocols
3. Special Procedures Scanning Protocols

I. MUSCULOSKELETAL

1. Musculoskeletal Anatomy
2. Routine Scanning Protocols
3. Special Procedures Scanning Protocols

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):

Seeram, Euclid. *Computed Tomography – Physical Principles, Clinical Applications, and Quality Control*, Missouri, Elsevier, Latest Edition

Kelley, Lorrie and Petersen, Connie. *Sectional Anatomy for Imaging Professionals*, Missouri, Mosby, Latest Edition

B. Other Resources:

Course Study Guide

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Please see course CID for methods of evaluation.

SCC STANDARD GRADING SCALE POLICY:

A+	95-100	C+	75-79
A	90-94	C	70-74
B+	85-89	D+	65-69
B	80-84	D	60-64
		F	Below 60

See Course Information Document for specific course policies related to grading, expectations, assignments, assessments, and other course related items.