

**SOUTHEAST COMMUNITY COLLEGE
HEALTH SCIENCES DIVISION
RADIOLOGIC TECHNOLOGY
Revision Date: 11/2023**

I. CATALOG DESCRIPTION

Course Number: RADT 1147

Course Title: Advanced Imaging

Prerequisite(s): RADT 1115

Catalog Description: Overview of equipment, procedures, techniques, anatomy, sterile technique, and imaging protocols of specialty areas including sonography, computed tomography MRI, nuclear medicine, radiation therapy, cardiovascular/interventional, mammography, and DEXA.

Credit Hours: 1

Class Hours: 15

Lab Hours: 0

Total Contact Hours: 15

II. COURSE OBJECTIVES: *Course will:*

1. Prepare the students for modality rotations during clinical education.
2. Review history, equipment, procedures, and trends in the specialized imaging section of radiology.
3. Provide information for education and training in the specialized imaging modalities associated with radiology.

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 course content with the imaging modalities at the clinical site
2. Determine which modalities will be chosen for observation during clinical education.
3. Discern which modality may be a possible future career path.

B. GENERAL EDUCATION LEARNING OUTCOMES (GELOS)

GELO #1: Speech Communication

OUTCOMES:

1. Develop a central idea for presentations
2. Organize the information clearly and logically, in an outline format, citing sources when appropriate.
3. Competently communicate messages – both verbally and nonverbally – to a variety of audience types and in a variety of situations

IV. CONTENT/TOPICAL OUTLINE *(course outline may provide more detailed information)*

A. INTRODUCTION TO SPECIAL PROCEDURES

1. Specialized Imaging Defined
2. Sterile Technique

B. ANGIOGRAPHY

1. Introduction and Anatomical Review
2. Procedural Equipment and Techniques

3. Angiographic Procedures
4. Interventional Procedures
5. Cardiac Procedures

C. MRI AND CROSS-SECTIONAL ANATOMY

1. Imaging Principles
2. MRI Equipment
3. Cross-Sectional Anatomy
4. Procedures and Imaging Techniques

D. RADIATION THERAPY AND RADIOSURGERY

1. Principles of Radiation and Cancer Treatment
2. Radiation Therapy Treatment Equipment
3. Steps in Treating Cancer in Radiation Therapy
4. Radiosurgery

E. NUCLEAR IMAGING

1. Imaging Principles
2. Radiation Safety and Nuclear Imaging Equipment
3. Procedures and Imaging Techniques
4. SPECT/PET/PET-CT

F. SONOGRAPHY

1. Imaging Principles
2. Equipment
3. Cross-Sectional Anatomy
4. Procedures and Imaging Techniques

G. MAMMOGRAPHY

1. Imaging Principles
2. Equipment
3. Anatomy
4. Positioning

H. BONE DENSITOMETRY

1. Imaging Principles
2. Equipment
3. Procedures and Imaging Techniques

I. COMPUTED TOMOGRAPHY

1. Imaging Principles
2. Equipment
3. Procedures and Imaging Techniques
4. Cross-Sectional Anatomy

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):

Bontrager, Kenneth L., Lampignano, John P. *Radiographic Positioning and Related Anatomy*. Mosby Elsevier, (current edition).

Bushong, Stewart C. *Radiologic Science for Technologists*. Mosby Elsevier, latest edition. Carlton, Richard R., Adler, Arlene M. *Principles of Radiographic Imaging*. Thompson Delmar, (current edition).

B. Other Resources:

Faculty Authored Course Study Guide

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. Lecture

2. Guided learning activities
3. Videos

VII. METHODS OF EVALUATION

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

VIII. SPECIFIC COURSE REQUIREMENTS

A. ATTENDANCE: Attendance is crucial to the success of this course. Any class missed could mean valuable missed information, which is difficult to obtain. Please notify the clinical instructor of any pending absences or if you will be late. Excessive absences could result in failing the course.

B. Must pass all program courses with a 75% to progress to the next term.

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