

R T 62A: ADVANCED MODALITIES IN IMAGING

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	3
Hours:	3 lecture per week (36 total per quarter)
Prerequisite:	R T 55B.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Describe image production and basic system components in the computed tomography and magnetic resonance imaging process.
- Recognize sectional anatomy of the head, neck, thorax, abdomen, spine, pelvis and extremities.

Description

Specialized radiographic procedures related to magnetic resonance imaging and computerized tomography. Computer applications related to image capture, display, storage, and distribution. Sectional anatomy of the head, neck, thorax, abdomen, pelvis, vertebral column, and extremities. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

- Describe the basic MRI system components and explain how MRI images are produced.
- Critique and evaluate MRI images for good diagnostic quality.
- Differentiate between normal and abnormal anatomy as it relates to MRI imaging.
- Describe the basic CT system components and explain how CT images are produced.
- Critique and evaluate CT images for good diagnostic quality.
- Differentiate between normal and abnormal anatomy as it relates to CT imaging.
- Recognize normal sectional anatomy of the head, neck, thorax, abdomen, vertebral column, pelvis, and extremities.
- Define and analyze radiographic terms related to specialized computed procedures.

Course Content

- Magnetic resonance imaging
 - History
 - Patient safety
 - System components
- Magnetic resonance imaging image characteristics
 - MR physics
 - Scanning protocols

- Related MRI anatomy and pathology
- Computerized tomography
 - History
 - Principles of operation
 - System components
- Computerized tomography image characteristics
 - Reconstruction and quality
 - Clinical procedures
- Related CT anatomy and pathology
- Sectional anatomy
 - Head and neck
 - Thorax
 - Abdomen
 - Pelvis
 - Spine
 - Extremities
- Computer science
 - History
 - Types
 - Digital fundamentals
 - Terminology
 - Components
 - Operations

Lab Content

Not applicable.

Special Facilities and/or Equipment

Classroom with view boxes and multimedia equipment with internet access.

Method(s) of Evaluation

Midterms
Final examination

Method(s) of Instruction

Lecture
Discussion
Group activities

Representative Text(s) and Other Materials

Kelly, Lorrie. Sectional Anatomy for Imaging Professionals, 4th ed.. 2018.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- Weekly reading assignment from course syllabus and textbook, approximately 10-20 pages.

Discipline(s)

Radiological Technology