

R T 51C: FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY III

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	4
Hours:	4 lecture per week (48 total per quarter)
Prerequisite:	R T 51B.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Evaluate proper positioning of the vertebral column, skull, bony thorax, and sub-special radiographic procedures in order to produce diagnostic images in the clinical setting.
- Analyzes anatomy related to vertebral column, skull, bony thorax, and sub-special radiographic procedures to assess images for proper positioning.

Description

Continuation of R T 51B; radiographic anatomy, positioning, and terminology, related to the skull, vertebral column, bony thorax, genitourinary system, pediatric and trauma radiology. 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:

- List and identify the anatomy of the vertebral column, skull, bony thorax, and genitourinary system.
- Describe the positioning and radiographic procedures used to visualize anatomic structures of the vertebral column, skull, bony thorax, and genitourinary system.
- Evaluate radiographic images and explain rationale for each projection/procedure.
- Describe the techniques and positioning for pediatric radiology.
- Describe the techniques and positioning for trauma radiology.

Course Content

- Anatomy
 - Cervical spine
 - Thoracic spine
 - Scoliosis series
 - Lumbar spine
 - Sacrum and coccyx
 - Sacroiliac joints
 - Skull

- Ribs
 - Sternum
 - Soft tissue neck
 - Cystography
 - Cystouragraphy
 - Intravenous urography
 - Retrograde urogram
- Positioning
 - Cervical spine
 - Thoracic spine
 - Scoliosis series
 - Lumbar spine
 - Sacrum and coccyx
 - Sacroiliac joints
 - Skull
 - Ribs
 - Sternum
 - Soft tissue neck
 - Cystography
 - Cystouragraphy
 - Intravenous urography
 - Retrograde urogram
 - Image evaluation
 - Anatomic structures shown
 - Positioning and patient instructions
 - Positioning errors
 - Corrective action
 - Collimation and central ray
 - Technical and exposure criteria
 - Quantum mottle
 - Saturation
 - Exposure index
 - SID
 - Grid utilization
 - Image markers and identifiers
 - Lead marker placement
 - Annotations for body position
 - Related pathology
 - Pediatric radiology
 - Positioning techniques
 - Communication
 - Anatomy considerations
 - Dose reduction/image gently
 - Trauma radiology
 - Positioning techniques
 - Communication
 - Anatomy considerations

Lab Content

Not applicable.

Special Facilities and/or Equipment

- Multimedia classroom

2. Anatomical phantoms and models
3. Illuminators (viewboxes)
4. Positioning aids
5. 3-D virtual anatomy applications
6. Access to digital imaging teaching file
7. Computer/internet access for online component

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Quizzes, midterms, and a comprehensive final examination, for content, terminology, and knowledge of subject matter
Evaluation of written image analysis, for content, form, and application of critique methodology

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Demonstration
Lecture
Discussion
Cooperative learning exercises

Representative Text(s) and Other Materials

Bontranger, Kenneth L.. Textbook of Radiographic Positioning and Related Anatomy. 2021.

Bontranger, Kenneth L.. Workbook and Laboratory Manual Radiographic Positioning and Related Anatomy. 2021.

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

1. Weekly reading assignments from text, one chapter per week, and syllabus, for integration into clinical practice
2. Image analysis component, where application of material in lecture is utilized by evaluating digital radiographic images

Discipline(s)

Radiological Technology