

# R T 53AL: APPLIED RADIOGRAPHIC TECHNOLOGY LABORATORY I

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	1
Hours:	3 laboratory per week (36 total per quarter)
Prerequisite:	R T 50.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

## Student Learning Outcomes

- Demonstrate proper equipment manipulation and positioning criteria for selected radiographic procedures of the chest, abdomen and extremities, applying appropriate patient care and radiation protection principles in the laboratory setting.
- Perform image evaluation and anatomy identification for selected radiographic procedures of the chest, abdomen and extremities.

## Description

First of three courses that include laboratory participation and application of basic positioning, patient care, equipment manipulation, radiation protection, image analysis, and technical radiographic experiments. Emphasis on abdomen, chest, upper and lower extremities, as learned in the companion lecture course, R T 51A. 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:

1. Demonstrate accuracy in radiation protection for the patient, personnel, and self.
2. Exhibit knowledge, understanding, and dexterity in the proper use of radiographic equipment.
3. Adhere to the program's standards of attendance, punctuality, and dependability.
4. Conduct self in a professional manner with classmates and staff.
5. Apply theory to practice by exhibiting ongoing, satisfactory job performance skills.
6. Select proper technical factors for radiographic procedures on an average patient.
7. Exhibit proper positioning skills for abdomen, chest, upper and lower extremities.

8. Demonstrate knowledge and understanding of various nursing procedures and basic patient care.
9. Perform radiographic technical lab experiments.

## Course Content

1. Radiation protection
  - a. Closing doors during procedures and exposures
  - b. Shielding all patients
  - c. Collimating to image receptor size and/or part size
  - d. Protecting self and others from irradiation by wearing aprons, gloves, and dosimeter
  - e. Patient pregnancy status
2. Equipment
  - a. Competency and proficiency with equipment
  - b. Safety precautions
  - c. Effective manipulation of control panel
3. Punctuality and dependability
  - a. Punctuality in reporting to the lab on time
  - b. Minimum loss of time due to absenteeism
  - c. Communicating whereabouts appropriately
4. Professional conduct
  - a. Being tactful and courteous with staff and others
  - b. Taking the initiative and helping other staff members
  - c. Working as a team with classmates
  - d. Accepting constructive criticism
  - e. Conducting oneself in a professional manner
  - f. Communicating effectively and following instructions
  - g. Contributing to a pleasant work environment
5. Job performance
  - a. Marking all radiographs according to laboratory protocol
  - b. Planning and organizing work efficiently
  - c. Being alert and interested in what is happening in the room and asking pertinent questions
  - d. Reading and understanding the requisition and properly identifying the patient
  - e. Maintaining a neat, clean, and well-stocked room
  - f. Communicating effectively
  - g. Following verbal instructions with multiple steps
  - h. Making effective use of free time
    - i. Completing the exam in a reasonable amount of time
    - j. Demonstrating proper ethical behavior
6. Technical factors
  - a. Setting the control panel accurately for an exposure
  - b. Understanding how various mA, kV, time, and distance factors affect the radiographic image
  - c. Being able to differentiate between use of AEC and manual technique
  - d. Checking control panel before exposure
7. Positioning
  - a. Knowing department routines for exams stated in laboratory objectives
  - b. Knowing specific centering for each part radiographed, including angulation of the x-ray tube and body part

- c. Positioning the patient carefully and accurately; using proper immobilization
  - d. Identifying basic anatomy and critiquing images
  - e. Handling patients gently when positioning, using concise instructions, and watching patient during breathing instructions
  - f. Perform accurate positioning for abdomen, chest, upper and lower extremities
8. Patient care and nursing procedures
    - a. Communicating effectively with the patient
    - b. Explaining exam to the patient
    - c. Using a safe approach when transferring patients
    - d. Completing the exam in a reasonable amount of time
  9. Radiographic technical lab experiments

## Discipline(s)

Radiological Technology

## Lab Content

Laboratory practice:

1. Radiation protection
2. Equipment operation
3. Image production and evaluation
4. Anatomy identification
5. Radiographic positioning procedures for abdomen, chest, upper and lower extremities
6. Patient care techniques

## Special Facilities and/or Equipment

Energized x-ray units with all basic accessory equipment, CR and DR image receptors, large scale monitors, view boxes, digital image library, and radiographic phantoms.

## Method(s) of Evaluation

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

Laboratory performance evaluation

## Method(s) of Instruction

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

Discussion  
Demonstration  
Observation and feedback during practice sessions

## Representative Text(s) and Other Materials

Foothill College (R T Program). Laboratory Manual. 2023.

This text is updated each year, and the current edition will be used.

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

Weekly reading assignments from laboratory manual.