

# Virginia Western Community College

## RAD 121

### Radiographic Procedures I

#### **Prerequisites**

Admission into the Radiography Program

#### **Course Description**

Introduces procedures for positioning the patient's anatomical structures relative to the x-ray beam and image receptor. Emphasizes procedures for routine examination of the chest, abdomen, extremities, and axial skeleton.

**Semester Credits: 4**

**Lecture Hours: 3**

**Lab/Clinical/Internship Hours: 3**

#### **Required Materials**

##### **Textbook:**

Radiographic Positioning & Related Anatomy. 9<sup>th</sup> Ed. Kenneth L. Bontrager & John P. Lampignano. ISBN: 9780323399661

Radiographic Positioning & Related Anatomy: 9<sup>th</sup> Ed. Workbook. ISBN: 9780323481878

##### **Supplementary Materials:**

Several resource textbooks are located in the Radiography Lab  
Laboratory facilities are available to radiography students during the day

#### **Course Outcomes**

**At the completion of this course, the student should be able to:**

- Understand human anatomy and the axial skeleton as it relates to radiographic positioning
- Perform radiographic positioning of the chest, abdomen, and axial skeleton
- Understand radiographic positioning concepts as they relate to the responsibilities of the clinical environment
- Understand radiographic positioning terminology and patient care practices

## **Topical Description**

### **Unit I: Introduction to Radiographic Positioning- Chapter 1 Part 1**

- Patient Care
- Patient Preparation
- Facilities Readiness

### **Unit II: Radiographic Positioning Terminology- Chapter 1 Part 2 & Chapter 3**

- Human Anatomy Review
- Anatomical Landmarks
- Planes of the Body
- Regions of the Body
- Quadrants of the Body
- Body Habitus
- Beam Direction Terminology
- Radiation Protection Terminology

### **Unit III: Selected Positioning of the Chest- Chapter 2**

- PA & Lat Erect Chest
- Decubitus Chest
- Supine Chest

### **Unit IV: Selected Positioning of the Abdomen- Chapter 3**

- AP Abdomen (preliminary)
- Bladder
- Lateral Abdomen
- Decubitus Abdomen
- Upright Abdomen
- Posterior Obliques

### **Unit V: Radiographic Positioning of the Upper Extremity-Chapter 4**

- Fingers and Thumb
- Hand
- Wrist
- Forearm
- Elbow

### **Unit VI: Radiographic Positioning of the Lower Extremity-Chapter 6**

- Toes
- Feet
- Ankle
- Lower Leg
- Knee
- Patella
- Femur

Unit VII: Radiographic Positioning of the Shoulder Girdle- Chapter 5

- Humerus
- Shoulder
- Clavicle
- Scapula

Unit VIII: Radiographic positioning of the Hips and Pelvis-Chapter 7

- Femur
- Hips
- Pelvis
- SI Joints

Unit IX: Radiographic Positioning of the Lumbar Spine, Sacrum and Coccyx- Chapter 9

- Lumbar Spine
- Spots of Any Single Vertebra, i.e., L-5 - S-1 Junction
- AP, Lateral Sacrum and Coccyx

**Specific Course Outcomes****At the completion of Unit I, the student should be able to:**

- Select correct image receptor size
- Correctly set radiographic techniques
- Manipulate radiographic equipment
- Choose appropriate accessories, i.e., sponges, lead strips, markers

**At the completion of Unit II, the student should be able to:**

- List and identify the bony skeleton (omit skull)
- List and identify Anatomical Landmarks on a skeleton
- Correctly define and identify the Planes of Body from a diagram
- Correctly identify the Regions of the Body
- List the organs found in the Quadrants of the Body
- Correctly identify the Quadrants
- Write the correct definition for Sthenic, Hypersthenic, Hyposthenic and Asthenic Habitus'
- Anatomically locate the position of the lungs, stomach and gall bladder in all body habitus types
- Write the correct definitions for Beam Directional Terminology
- Physically demonstrate tube manipulation
- Write the correct definitions for X-ray Projection Terminology

**At the completion of Unit III, the student should be able to:**

- List the correct routine projections, image receptor sizes and centering references for the Chest (Basic, Special) and Upper Airway
- Obtain satisfactory radiographs and identify (critique) structures demonstrated on the Chest (Basic, Special) and Upper Airway

**At the completion of Unit IV, the student should be able to:**

- List the correct routine projections, image receptor size and centering references for the Abdomen

**At the completion of Unit V, the student should be able to:**

- List the correct routine projections, image receptor size and centering references for the Upper Extremities
- Obtain satisfactory radiographs and identify (critique) structures demonstrated on the Upper Extremities

**At the completion of Unit VI, the student should be able to:**

- List the correct routine projections, image receptor size and centering references for the Lower Extremities
- Obtain satisfactory radiographs and identify (critique) structures demonstrated on the Lower Extremities

**At the completion of Unit VII, the student should be able to:**

- List the correct routine projections, image receptor size and centering references for the Shoulder Girdle
- Obtain satisfactory radiographs and identify (critique) structures demonstrated on the Shoulder Girdle

**At the completion of Unit VIII, the student should be able to:**

- List the correct routine projections, image receptor size and centering references for the Hips-Pelvis and SI Joints
- Obtain satisfactory radiographs and identify (critique) structures demonstrated on the Hips-Pelvis and SI Joints

**At the completion of Unit IX, the student should be able to:**

- List the correct routine projections, image receptor sizes and centering references for the Lumbar Spine, Sacrum and Coccyx
- Obtain satisfactory radiographs and identify (critique) structures demonstrated on the Lumbar Spine, Sacrum and Coccyx

**Note to Instructors**

1. One-on-one tutorial sessions are available upon request.
2. Students may utilize the energized laboratory under supervision of a faculty member.
3. See Instructor's Notes within Course Syllabus

[ADA Statement \(PDF\)](#)

[Title IX Statement \(PDF\)](#)

