Virginia Western Community College
RAD 221
Radiographic Procedures II

Prerequisites:
Successful completion of RAD 121- Radiographic Procedures I

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 skull, axial skeleton, contrast studies of GI & GU tracts & special procedures employed in the more complicated investigation of the human body.

Semester Credits: 4 **Lecture Hours: 3** **Lab/Clinical/Internship Hours: 3**

Required Materials

Textbook:
Radiographic Positioning & Related Anatomy. 9th ed. Kenneth L. Bontrager & John P. Lampignano. Elsevier ISBN: 9780323399661

Radiographic Positioning & Related Anatomy: 9th ed. Elsevier 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, skull & contrast studies as it relates to radiographic positioning.
- Perform radiographic positioning of the skull, axial skeleton, contrast studies of the GI & GU tract.
- Understand radiographic positioning concepts as they relate to the responsibilities of the clinical environment.
- Understand radiographic positioning terminology and patient care practices.

Topical Description

I	Radiographs of Cervical & thoracic
II	Radiographs of the Bony Thorax, sternum & ribs
III	Radiographs of the Bilary Tract & Upper GI system
IV	Radiographs of the Lower GI system
V	Radiographs of the Urinary system
VI	Radiographs of the Cranium(Skull)
VII	Radiographs of the Facial Bones
VIII	Radiographs of the Sinuses

Course Objectives

I: Cervical & Thoracic Spine- Chapter 8

- List the correct routine projections, image receptor size and centering references for the Cervical & Thoracic Spine
  Cervical spine: AP open mouth, AP axial, Anterior / Posterior obliques, Lateral Erect, Swimmers
  Lateral flexion& extension
  Thoracic spine: AP, Lateral, Swimmers, Anterior/Posterior obliques
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Cervical & Thoracic Spine

II: Bony Thorax, Sternum & Ribs- Chapter 10

- List the correct routine projections, image receptor size and centering references for the Bony Thorax, Sternum & Ribs
  Sternum: RAO, Lateral
  SC joints: PA, RAO & LAO
  Ribs: AP/PA Bilateral, AP unilateral, Posterior or Anterior obliques
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Bony Thorax & Ribs

III: Radiographic Positioning of the Biliary Tract & Upper GI System - Chapter 12

- List the correct routine projections, image receptor size and centering references for the following selected projections:
  RAO/LAO esophagus
  PA esophagus
  RAO/LPO GI
  Right LAT GI
  PA/AP GI
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Upper GI System

IV: Radiographic Positioning of the Lower GI- Chapter 13

- List the correct routine projections, image receptor size and centering references for the Lower GI:
  AP/PA Timed Small Bowel Series
  AP/PA Barium Enema
  RAO/LAO BE or RPO/LPO
  Lateral BE
  LPO Oblique
  AP/PA Sigmoid
  RT/Left Lateral Decub
  AP/PA Axial
  AP/PA Erect
  Post Evacuation Image
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Lower GI

V: Radiographic Positioning of the Urinary System- Chapter 14

- List the correct routine projections, image receptor size and centering references for the Urinary System: IVP, cystogram, voiding cystogram
  IVP: AP prelim abdomen
  AP Bladder
  AP tomo of kidneys
  1min,2min,3min tomo of kidneys
  5min AP of the Kidneys
  10 min AP abdomen
  15 min RPO/LPO abdomen
  Post Void Erect abdomen
  Cystogram: AP, RPO/LPO, & Lateral
  Voiding Cystogram: AP, RPO
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the urinary system

VI: Radiographic Positioning of the cranium- Chapter 11

- List the correct routine projections, image receptor size and centering references for the Cranium(skull)
  Skull: AP/PA Axial, Lateral, SMV, PA
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Skull

VII: Radiographic Positioning of the Facial Bones- Chapter 11

- List the correct routine projections, image receptor size and centering references for the facial bones
  Facial Bones: Lateral, Parietoacanthial, PA axial
  Nasal Bones: Lateral, Parietoacanthial
  Zygomatic Arches: SMV, Tangential
  Orbits: Parietoacanthial, Rheese method

Mandible: Axiolateral or Axiolateral oblique, AP axial, PA/PA axial, SMV, Panoramic
TMJ: AP axial, Axiolateral

- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the facial bones

VIII: Radiographic Positioning of the Sinuses- Chapter 11

- List the correct routine projections, image receptor size and centering references for the sinuses
  Sinus: Lateral, Parietoacanthial, PA, SMV
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the sinuses

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 the Course Syllabus.