School of Nursing and Health Professions Syllabus

HUDSON COUNTY COMMUNITY COLLEGE
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Term: **Credits: 3**

Course Code: RAD 105

Title of Course: Radiographic Imaging II/lab

Days & Times:

Location:

Instructor:

Office Hours:

Office Location:

Email:

Phone:

Prerequisites: RAD 101, RAD 104

Corequisite: RAD 102

COURSE DESCRIPTION:

In this second course of a series, anatomy and positioning terminology and their procedures protocols for lower extremity, shoulder and pelvic girdles, ribs and sternum are presented. Demonstration of applicable factors and protection methods are learned as well as using problem solving methodologies to achieve quality radiographs while providing compassionate and optimum patient care.

COURSE OBJECTIVES:

1. Define general radiographic and anatomic relational terminology.
2. Identify specific anatomical structures in radiographs and drawings for the lower extremity, shoulder and pelvic girdle, and bony thorax categories.
3. List the correct central ray placement, part position, and criteria for lower extremity, shoulder and pelvic girdle, and bony thorax categories.
4. Identify alterations in positioning routine and exposure factors specific to pediatric and geriatric patients.
5. Based on clinical situations, describe the preferred positioning routine to assist the physician with the diagnosis of a specific condition or disease process.
6. Distinguish between acceptable and unacceptable radiographs based on exposure factors, motion, collimation, positioning, or other errors.
7. Given a hypothetical situation, identify the correct modifications of position, exposure factors, or both to improve the radiographic image.

STUDENT LEARNING OUTCOMES:

A. Radiographic Imaging Procedures: SLO 1

1. Have Patient identification confirmation using at least two patient identifiers.
2. Determine the patient's identity using information on the requisition form.
3. Confirm the patient's identity by checking the wrist band and questioning the patient.

B. Procedure confirmation: SLO 2

1. Record patient information on the requisition form using medical terminology knowledge.
2. Examine x-ray requisition form to verify the accuracy and completeness of information

C. Positioning Terminology: SLO 3

1. Define terms used to describe radiographic positioning.

D. Positioning aids and Accessories: SLO 4

1. Describe various positioning aid applications, their functions; advantages/disadvantages.
2. Demonstrate the use of calipers; lead markers and their application in radiography

E: Lab Objectives for Clinical Simulations:

Given clinical simulations for various radiographic procedures, explain general positioning considerations for Shoulder Girdle, Lower Extremity and Pelvic Girdle.

I. Shoulder Girdle anatomy: SLO5

1. Describe the shoulder girdle anatomy in terms of structure visualized and function demonstrated.
2. Positioning: Describe routine and special views of the shoulder in terms of structures visualized, functions demonstrated, and general positioning considerations.
    a. In a laboratory environment, perform radiographic procedures related to the shoulder.
3. Image evaluation- optimum visualization
    a. Evaluate radiographs for positioning accuracy, image quality, and anatomical structures

II. Lower extremities: SLO 6

1. Describe lower extremities anatomy in terms of structure visualized and function demonstrated.
2. Positioning: Describe routine and special views of the lower extremities in terms of structures visualized, functions demonstrated, and general positioning considerations.
3. In a lab environment, perform radiographic procedures related to lower extremity
4. Image evaluation-Optimum Visualization
5. Evaluate radiographs for positioning accuracy, image quality, and anatomical structures

III. Pelvic Girdle anatomy: SLO 7

1. Describe the pelvis bone anatomy in terms of structure visualized and function demonstrated.
2. Positioning: Describe routine and special views of the pelvic bone in terms of structures visualized, functions demonstrated, and general positioning considerations.
    - In a laboratory environment, perform radiographic procedures related to the pelvis.
2. Image evaluation- optimum visualization
    - Evaluate radiographs for positioning accuracy, image quality, and anatomical structures

IV. Pediatric Radiography: Please refer to Patient Care RAD 102 Radiography II syllabus

1. State the steps how to immobilize an infant and perform this procedure on a patient.
2. Identify the more common commercial immobilization devices and explain their function.
1. Identify methods of reducing patient and guardian doses and repeat exposures
2. For pathology for pediatric skeletal system, determine adjustment of exposure factors.

V. Geriatric Radiography: Please refer to Patient Care RAD 102 Radiography II syllabus

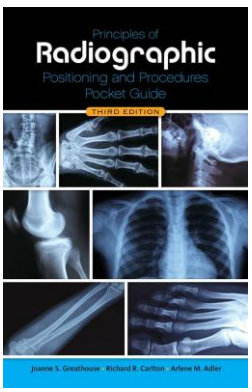
1. Describe the physiologic changes the elderly body undergoes and its effect on imaging.
2. Discuss the attitudes of health care professionals with regard to the aging population and how it affects their patient care skills.
3. State the usage of implementing skills that lead to JCAHO patient compliance for radiographers.

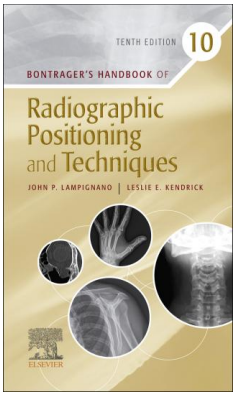
VI. Bony Thorax anatomy: SLO 8

1. Describe the sternum and ribs anatomy in terms of structure visualized and function demonstrated.
2. Positioning: Describe routine and special views of the sternum and ribs in terms of structures visualized, functions demonstrated, and general positioning considerations.
    a. In a lab environment, perform radiographic procedures related to the sternum/ribs
3. Image evaluation- Optimum Visualization
    b. Evaluate radiographs for positioning accuracy, image quality, and anatomical structures

TEXTBOOK REQUIRED:

- Lampignano & Bontrager, (2021) Textbook & Workbook for Radiographic Positioning and Related Anatomy, 10th ed. (2 Books)
- Carlton, Greathouse & Adler, (2024) Bontrager's Handbook of Radiographic Positioning and Techniques (pocket guide for use at clinical), 10th ed
- Clover Learning Inc., Computer program: RadTech Boot Camp (Must only be purchased through the HCCC bookstore)





EVALUATION METHODS:

- **Tests** **70%**
- **Final Exam** **30%**

WEEKLY OUTLINE:

Week	Topic	Learning Outcomes (L.O)
1	Shoulder girdle anatomy/ articulations	SLO 1
2	Lecture for Unit 1 Test 2: Positioning	SLO 2
3	Review for Comprehensive Unit 1 Test 3 on entire shoulder girdle	SLO 3
4	Anatomy for entire Lower Limb foot to femur; foot surfaces; knee joint	SLO 4
5	Positioning for: Toes AP/Obl/Lat; Sesamoids; Foot AP/Obl/Lat; Longitudinal arch Lat/Standing	SLO 5
6	Material on: Positioning for: Ankle stress; lower leg; Knee AP/Lat/both obl/weight-bearing;	SLO 6
7	Material on: Pelvic girdle anatomy include prox	SLO 7
8	Lecture for Unit 2 Review	SLO 8
9	Anatomy on ribs Positioning on ribs with adaptations	SLO 9
10	Anatomy for Bony Thorax sternum/ribs; articulations/respiratory movement/ diaphragm	SLO 10
11	Lecture for Unit 3 Review	SLO 11
12	Final Exam Review	SLO 12
13	Final Exam	FINAL EXAM

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https://www.hccc.edu/administration/academic-affairs/syllabus-addendum.html