School of Nursing and Health Professions Syllabus

HUDSON COUNTY COMMUNITY COLLEGE
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Term: **Credit: 3CR** **Office Hours:**

Course Code: RAD 104 **Office Location:**

Title of Course: Radiographic Imaging I **Email:**

Days & Times: **Phone:**

Location: **Prerequisites/ Corequisites: RAD 101**

Instructor:

COURSE DESCRIPTION:

In this first course, anatomy and positioning terminology and their procedures protocols for chest, abdomen, and upper extremity are presented. Demonstration of applicable factors and radiation protection methods are learned as well as using problem solving methodologies to achieve quality radiographs while providing compassionate and optimum patient care. Didactic course material lecture; 3 hours. Didactic course material lecture with testing scheduled; 4 hours. Laboratory demonstrations performed in lab room on campus; 2 hours.

COURSE OBJECTIVE:

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

STUDENT LEARNING OUTCOMES:

SLO 1. Radiographic Imaging Procedure Confirmation

- Document Patient identification confirmation using at least two patient identifiers.
- Examine x-ray requisition to verify the accuracy and completeness of information.
- Interview patient to obtain pertinent information prior to beginning the imaging exam.
- Record patient information on requisition form using medical terminology knowledge.

- Define terms used to describe radiographic and anatomic relational landmarks.

SLO 2. Imaging Accessories and Concepts for Positioning

- Describe various positioning aid applications, their functions; advantages/disadvantages.
- Demonstrate the use of calipers; lead markers and their application in radiography.
- Know the importance of correct centering, collimation, lead shielding, & patient instructions.
- Explain the principles of magnification and shape distortion related to positioning.

SLO 3. Positioning Principles

- Explain the functions of the 10 systems of the body.
- Identify the specific anatomical structures on radiographs.
- List the correct central ray placement, part position, and evaluation criteria.
- Identify the correct sequence of steps taken to perform a routine radiographic procedure.
- Describe the methods to reduce exposure to the patient during imaging procedures.
- Know various imaging adaptations for non-routine, trauma, and pathology patients.
- Distinguish between acceptable and unacceptable radiographs for imaging study.

Lab/Clinical:

First Step: Lab demonstration class is mandatory and is completed in the non-energized lab room on campus before the Didactic portion of the imaging studies.

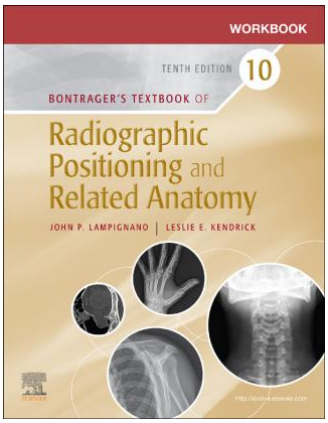
Second Step: Lab Evaluations are performed by students who have successfully passed the didactic component of the imaging study. School faculty observe and grade the student on lab evaluations. Date of performed lab is documented on Student's Individual CCE record. Passing grade on lab evaluations is 85% and must be completed before student moves onto Performance of Patient Procedure phase.

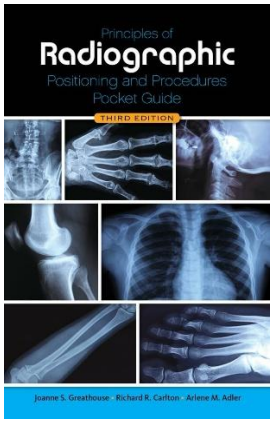
Third Step: Patient Performance Phase: *Students must perform One Patient Procedure (non-graded) under Direct Supervision Prior to performing a (graded) ICCE. Students must document and have signed by a licensed R.T. (staff radiographer) on their Student Individual CCE record that they have performed the radiographic study.* The student can perform the study immediately after passing the lab evaluation, once the study becomes available in the department.

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





EVALUATION METHODS:

- # of unit section averages = 70% of final grade
- Final Exam = 30% of final grade
- Total = 100% for final grade of subject

WEEKLY OUTLINE:

Week	Topic	Learning Outcomes (L.O)
1	Ch.1-Bont. Gen./Sys Anatomy review; not Arthrology	SLO 1
2	Finish all positioning terms Positioning Principles entire	SLO 1 & 2
3	Imaging Principles entire Patient Protection in Radiography	SLO 1 & 2
4	Radiographic Positioning Chest: Body habitus to & including digital imaging considerations	SLO 1 & 2
5	Positioning & Evaluation Criteria	SLO 2 & 3
6	All chest studies & airway reviewed	
7	Anatomy up to Inc. Urinary	
8	quadrants to digital app: Positioning: KUB- PA- Erect Evaluation Criteria	
9	Positioning: lateral decubitus; Erect; dorsal; decub; acute series Clinical Indications	SLO 1, 2, & 3
10	Ch 1 –Classification of bones Includes development of bone	SLO 2 & 3
11	Anatomy of: entire forearm; elbow	SLO 2 & 3

	jt., and distal humerus- Ch 4	
12	**Anatomy: Ch. 5-proximal humerus and intro to shoulder girdle** **Clinical Indications - Ch. 4**	**SLO 2 & 3**
13	**Additional: carpal bridge/canal; Stecher; Coyle; 4 for radial head**	**SLO 3**
14	**Circulation Anatomy- Ch.17 Pulmonary vs. Systemic; Abdomen**	**SLO 1, 2, & 3**
15	**Final Exam**	**FINAL**

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