



MERCER
COUNTY COMMUNITY COLLEGE

COURSE OUTLINE

Course Number RAD127	Course Title Radiographic Procedures I	Credits 6
Hours: Lecture/Lab/Other 3/3/210 clinical hours	Co- or Pre-requisite Pre-requisites: Formal acceptance into professional phase of Radiography program Co-requisites: RAD 102, RAD119	Implementation Semester & Year Fall 2025

Catalog description:

Study of standard radiographic positioning and related medical terminology of the chest, abdomen, and upper and lower extremities. Involves laboratory simulation and evaluation. Students acquire clinical experiences at an affiliate hospital sufficient to demonstrate competency in a specified number and variety of radiographic procedures.

General Education Category:
Not GenEd

Course coordinator:

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Course Instructor:
Deborah Greer, 609-570-3341, greerd@mccc.edu

Required texts/Supplements:
REQUIRED

Title:	Textbook of Radiographic Positioning & Related Anatomy
Author:	K.L Bontrager; JP.Lampignano
Publisher:	Elsevier
Edition:	11 th
Title:	Radiographic Positioning and Related Anatomy Workbook, Volume I
Author:	K.L. Bontrager; J.P. Lampignano
Publisher:	Elsevier
Edition:	11 th
Title:	Radiographic Image Analysis
Author:	Kathy McQuillen Martensen
Publisher:	Elsevier
Edition:	6 th
Title:	Radiographic Image Analysis Workbook
Author:	Kathy McQuillen Martensen
Publisher:	Mosby

Edition: 6th

Title: Bontrager's Handbook of Radiographic Positioning & Techniques
Author: K.L. Bontrager; J.P. Lamignano
Publisher: Elsevier Mosby
Edition: 11th

Course Student Learning Outcomes (SLO):

Upon completion of this course the student will be able to:

1. Interpret medical terms and pathological processes that apply to the chest, abdomen, upper and lower extremities. [Supports ILG # 3]
2. Describe and perform routine radiographic procedures of the chest, abdomen, upper and lower extremities during laboratory simulation. [Supports ILG # 1-5, 8-11]
3. Develop the clinical competence to perform all types of diagnostic imaging procedures with specific focus on the chest, abdomen, upper and lower extremities on a variety of patient types using wide-ranging imaging equipment, technique formulations, and processing modes. [Supports ILG # 1-5, 8-11]
4. Develop effective communication skills when performing radiographic procedures during laboratory simulation and clinical education. [Supports ILG # 1]
5. Analyze radiographic images to determine optimal quality in accordance with imaging standards and radiation safety. [Supports ILG # 3, 9, 11]

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 1. Written and Oral Communication in English. Students will communicate effectively in both speech and writing.

Institutional Learning Goal 2. Mathematics. Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

Institutional Learning Goal 3. Science. Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

Institutional Learning Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

Institutional Learning Goal 5. Social Science. Students will use social science theories and concepts to analyze human behavior and social and political institutions and to act as responsible citizens.

Institutional Learning Goal 8. Diversity and Global Perspective: Students will understand the importance of a global perspective and culturally diverse peoples

Institutional Learning Goal 9. Ethical Reasoning and Action. Students will understand ethical frameworks, issues, and situations.

Institutional Learning Goal 10. Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Units of study in detail – Unit Student Learning Outcomes

<u>Unit I:</u>	Introduction to radiographic equipment, radiation protection, and positioning terminology [Supports Course SLOs #1 - 5]
<u>Unit II - III</u>	Chest and Abdomen [Supports Course SLOs #1 - 5]
<u>Unit IV - VIII</u>	Upper Extremity, Shoulder Girdle [Supports Course SLOs #1 - 5]
<u>Unit IX - XIV</u>	Lower Extremity [Supports Course SLOs #1 - 5]

Learning Objectives:

At the completion of each weekly three-component activity (lecture, laboratory, and clinical education) the student will be able to: [Supports Course SLOs #1 - 5]

- Identify the anatomical parts of the chest, abdomen, upper and lower extremities on diagrams and radiographic images.
- Describe routine positions of the chest, abdomen, upper and lower extremities; identify structures demonstrated.
- Discuss equipment and supplies necessary to complete radiographic procedures of the chest, abdomen, upper and lower extremities.
- In the laboratory-simulated environment, perform routine radiographic procedures of the chest, abdomen, upper and lower extremities.
- Given radiographs of various anatomical structures, evaluate positioning accuracy and image quality.
- Discuss ethics and the characteristics of professional behavior.
- Apply professional communication techniques.
- List the radiography practice standards.
- Demonstrate positive values and a commitment to diversity, equity, and inclusion.
- Explain the elements of procedural performance and radiation protection.
- Recognize the requirements for clinical competency.
- Discuss radiographic technique using anatomic, positioning, and projection terminology.
- Evaluate radiographic orders and preparation for procedures.
- Describe patient communication techniques and planning.
- Apply patient positioning techniques for common exams.
- Conduct chest, abdomen, upper and lower extremities in accordance with department protocol.
- Recognize special concerns and techniques for mobile radiography.

Evaluation of student learning:

A grade of "C+" (77%) or higher must be achieved in the lecture, laboratory, and clinical components of the course to progress to RAD128 and RAD120. A grade of "P" (pass) must be earned in the laboratory and clinical components. The following grading policy will be utilized:

Course Grade

Lecture:	100%
Laboratory:	Pass/Fail (P/F)
Clinical:	Pass/Fail (P/F)

Lecture Grade

Weekly Tests:	40%
Critical Thinking:	5%
Image Analysis	5%
RAD Tech Boot Camp:	5%
Midterm Exam:	20%
Final Exam:	25%

Clinical Grade (P/F)

Clinical Evaluations:	50%
Clinical Competency Evaluations:	25%
Image Evaluations:	25%

Lab Grade (P/F)

Lab Tests:	100%
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