



Course Information

Course Title	Principles of Radiographic Imaging II
Course Prefix, Num. and Title	RADR 2205 Principles of Radiographic Imaging II
Division	Allied Health
Department	Radiologic Technology
Course Type	WECM Course
Course Catalog Description	Radiographic image quality and the effects of exposure variables, and the synthesis of all variables in image production. A minimum grade of "C" is required to pass this course.
Pre-Requisites	RADR 2401, 1313, and 1266 with a C or better
Co-Requisites	None

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours:	2:1:4
Lab/Other Hours	
Equated Pay Hours	3
Lab/Other Hours Breakdown: Lab Hours	4
Lab/Other Hours Breakdown: Clinical Hours	Enter Clinical Hours Here.
Lab/Other Hours Breakdown: Practicum Hours	Enter Practicum Hours Here.
Other Hours Breakdown	List Total Lab/Other Hours Here.

Approval Signatures

Title	Signature	Date
Prepared by:		
Department Head:		
Division Chair:		
Dean/VPI:		
Approved by CIR:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

1. Imaging Equipment
 - a. Components of Radiographic Unit
 - i. Radiation detectors
 - ii. Back-up timers
 - iii. Density adjustment (1+ or -1)
 - b. X-Ray Generator
 - i. Basic principles
 - ii. Phase, pulse, and frequency
 - c. Components of Fluoroscopic Unit
 - i. Image Intensifier
 - ii. Viewing System
 - iii. Recording System
 - iv. Automatic Brightness Control
 - v. Magnification Mode
 - d. Digital Radiography an Overview
 - i. Digital Imaging Processing Concepts
 - ii. Computed Radiography: Physics and Technology
 - e. Quality Control of Imaging Equipment and Accessories
 - i. Beam Restriction
 1. Light field to radiation field alignment
 2. Central Ray alignment
 - ii. Recognition and Reporting of Malfunctions
 - iii. Digital Imaging Receptor Systems
 1. Artifacts
 2. Maintenance
 3. Display monitor quality assurance
 - iv. Shielding Accessories(e.g. lead aprons and glove testing)

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

Analyze image quality; utilize procedures for minimizing patient exposure; and adapt technical variables to changing conditions.

Methods of Assessment:

Final film critique sheet, Lab test tool, Digital Imaging Experiments, and Final comprehensive examination.

Required text(s), optional text(s) and/or materials to be supplied by the student:

Papp, Jeffery, MD, Quality Management in the Imaging Sciences, Mosby, Inc., St. Louis, MO.

Suggested Course Maximum:

18

List any specific or physical requirements beyond a typical classroom required to teach the course.

The Radiology Classroom and Energized X-ray lab.

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

End of unit exams (plus lab average)	75%
Final	25%
100-92	A
91-83	B
82-75	C
74.9 and below	F

Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms
 - Critical Thinking
 - Communication
 - Empirical & Quantitative Skills
 - Teamwork
 - Social Responsibility
 - Personal Responsibility
- WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist