



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	RTEC
Course Number:	91
Descriptive Title:	Radiographic Pathology
Division:	Health Sciences and Athletics
Department:	Radiologic Technology
Course Disciplines:	Radiologic Technology
Catalog Description:	This course provides basic knowledge of disease pathology and etiology as they pertain to diagnostic radiography. The course will emphasize the radiographic appearance of disease and influence on exposure factor selection. This course provides basic knowledge of pathology as it pertains to diagnostic radiography technology.
Prerequisite:	RTEC 124 with minimum grade of C or equivalent
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	Presently practicing clinical radiography (student or registered technologist)
Hours Lecture (per week):	2
Hours Laboratory (per week):	0
Outside Study Hours:	4
Total Course Hours:	36
Course Units:	2
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	3-15-1999
Transfer UC:	No
Effective Date:	
General Education: ECC	
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	SLO #1 Pathogenesis and Etiology

	<p>Students will recall the pathogenesis and etiology of diseases commonly diagnosed with medical imaging.</p> <p>SLO #2 Pathology Terminology</p> <p>Students will define common terminology associated with the study of disease.</p> <p>SLO #3 Pathology Identification</p> <p>Students will identify pathologies that are common to the various body systems.</p>
<p>Course Objectives:</p>	<ol style="list-style-type: none"> 1. Define common terminology associated with the study of disease and describe the different types of disease classifications. 2. Differentiate between signs versus symptoms, acute versus chronic disease and diagnosis versus prognosis. 3. Characterize different ways that cells can adapt in response to injury or environmental changes. 4. Evaluate the anatomy of the human body systems to determine radiographic abnormalities and identify disease possibilities. 5. Explain the pathogenesis and etiology of diseases commonly diagnosed with the use of medical imaging. 6. Identify appropriate indications for performing a given imaging procedure. 7. Propose addition imaging positions or technique adjustments that would further characterize the radiographic appearance of the pathology to improve diagnosis. 8. Compare and contrast imaging modalities such as; radiography, fluoroscopy, computed tomography, magnetic resonance imaging, nuclear medicine, ultrasound, positron emission tomography, single proton emission computed tomography, mammography, dual energy x-ray absorptiometry and interventional procedures to diagnose the pathologies discussed in the course. 9. Classify pathologies unique to specific age groups.
<p>Major Topics:</p>	<p>I. Introduction (3 hours, lecture)</p> <p>A. Introduction to principles of Pathology, pathogenesis and disease classification B. Common terminology associated with radiographic pathology C. Cellular changes</p> <p>II. Central Nervous System (3 hours, lecture)</p> <p>A. Anatomy and physiology B. Common pathologies diagnosed with medical imaging C. Etiology and pathogenesis D. Sign and/or symptoms E. Radiographic demonstration and technique F. Imaging indications</p> <p>III. Skeletal System (4 hours, lecture)</p> <p>A. Anatomy and physiology B. Common pathologies diagnosed with medical imaging C. Etiology and pathogenesis D. Sign and/or symptoms E. Radiographic demonstration and technique F. Imaging indications</p>

IV. Respiratory System (4 hours, lecture)

- A. Anatomy and physiology
- B. Common pathologies diagnosed with medical imaging
- C. Etiology and pathogenesis
- D. Sign and/or symptoms
- E. Radiographic demonstration and technique
- F. Imaging indications

V. Reproductive and Mammography (4 hours, lecture)

- A. Anatomy and physiology
- B. Common pathologies diagnosed with medical imaging
- C. Etiology and pathogenesis
- D. Sign and/or symptoms
- E. Radiographic demonstration and technique
- F. Imaging indications

VI. Cardiovascular System (4 hours, lecture)

- A. Anatomy and physiology
- B. Common pathologies diagnosed with medical imaging
- C. Etiology and pathogenesis
- D. Sign and/or symptoms
- E. Radiographic demonstration and technique
- F. Imaging indications

VII. Hemopietic (1 hour, lecture)

- A. Anatomy and physiology
- B. Common pathologies diagnosed with medical imaging
- C. Etiology and pathogenesis
- D. Sign and/or symptoms
- E. Radiographic demonstration and technique
- F. Imaging indications

VIII. Circulatory System (3 hours, lecture)

- A. Anatomy and physiology
- B. Common pathologies diagnosed with medical imaging
- C. Etiology and pathogenesis
- D. Sign and/or symptoms
- E. Radiographic demonstration and technique
- F. Imaging indications

IX. Abdomen and Gastrointestinal (4 hours, lecture)

- A. Anatomy and physiology
- B. Common pathologies diagnosed with medical imaging
- C. Etiology and pathogenesis
- D. Sign and/or symptoms
- E. Radiographic demonstration and technique

	<p>F. Imaging indications</p> <p>X. Endocrine (2 hours, lecture)</p> <p>A. Anatomy and physiology B. Common pathologies diagnosed with medical imaging C. Etiology and pathogenesis D. Sign and/or symptoms E. Radiographic demonstration and technique F. Imaging indications</p> <p>XI. Traumatic Disease (4 hours, lecture)</p> <p>A. Etiology and pathogenesis B. Signs and/or symptoms C. Radiographic demonstration and technique considerations due to pathologic changes D. Imaging indications</p>
Total Lecture Hours:	36
Total Laboratory Hours:	0
Total Hours:	36
Primary Method of Evaluation:	1) Substantial writing assignments
Typical Assignment Using Primary Method of Evaluation:	Write a three- to five-page report on a pathological condition that is diagnosed through medical imaging, such as colitis. Your research should encompass a minimum of three references, in recent medical publications or other reliable sources. Collect radiographic demonstrations of your selected pathology during your clinical internship training to include with the report and present during an oral presentation to the class. The content of the reports should include at minimum; the anatomy, pathogenesis and etiology of the disease. Radiographic indications and demonstrations. Imaging modalities used to diagnose the disease and treatments for the disease.
Critical Thinking Assignment 1:	Using the information from the lecture, class discussion and your text, in a written paragraph identify the radiographic abnormality and disease demonstrated on the radiograph. Propose additional imaging or technique adjustments that would better characterize the identified pathology.
Critical Thinking Assignment 2:	<p>In a one-page paper explain what adjustment in the technical factors you would make from your routine technique for the exams below if the patient had a history of osteoporosis. Explain the reasoning behind your answer, using the information from the lecture, class discussion and your text.</p> <ol style="list-style-type: none"> 1. Right hand 2. Kidney ureters and bladder (KUB) 3. Lumbar-sacral spine
Other Evaluation Methods:	Class Performance, Essay Exams, Homework Problems, Laboratory Reports, Matching Items, Multiple Choice, Objective Exam, Other (specify), Performance Exams, Quizzes, Reading Reports, Term or Other Papers, True/False, Written Homework
Instructional Methods:	Demonstration, Discussion, Lecture, Multimedia presentations, Other (specify)
If other:	
Work Outside of Class:	Work in groups for class presentation on a chosen pathology

If Other:	
Up-To-Date Representative Texts:	Ronald Eisenberg, Comprehensive Radiographic Pathology, 7th Edition, 2020, Elsevier Ronald Eisenberg, Comprehensive Radiographic Pathology WORKBOOK, 7th Edition, 2020 Elsevier
Alternative Texts:	
Required Supplementary Readings:	Rollins, J.et al. <u>MERRILL'S ATLAS OF RADIOGRAPHIC POSITIONS AND RADIOGRAPHIC PROCEDURES; VOLUMES I, II & III.</u> 15 th ed. Mosby/Elsevier 2023.
Other Required Materials:	
Requisite:	Prerequisite
Category:	Sequential
Requisite course(s): List both prerequisites and corequisites in this box.	Radiologic Technology-124
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	<p>Assess the patient's status and condition prior to performing radiographic procedure. RTEC 124 - Explain the types of immobilization devices and positioning considerations required for patients with fractures, wounds, head injuries and other types of trauma.</p> <p>RTEC 124 - Identify specific types of tubes, lines and catheters and describe the special problems faced in performing procedures on the acutely ill patient with these devices in place.</p> <p>Identify and analyze anatomy and pathology on radiographic images. RTEC 124 - Identify standard radiographic positions and anatomical structures on a radiographic image.</p> <p>RTEC 124 - Evaluate and analyze radiographic images.</p>
Requisite Skill:	or equivalent
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	<p>Assess the patient's status and condition prior to performing radiographic procedure. Explain the types of immobilization devices and positioning considerations required for patients with fractures, wounds, head injuries and other types of trauma.</p> <p>Identify specific types of tubes, lines and catheters and describe the special problems faced in performing procedures on the acutely ill patient with these devices in place.</p> <p>Identify and analyze anatomy and pathology on radiographic images. Identify standard radiographic positions and anatomical structures on a radiographic image.</p> <p>Evaluate and analyze radiographic images.</p>
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each skill(s). If applicable	
Enrollment Limitations and Category:	Presently practicing clinical radiography (student or registered technologist)
Enrollment Limitations Impact:	
Course Created by:	Donald Vistintainer
Date:	10/01/1991
Original Board Approval Date:	03/09/1992
Last Reviewed and/or Revised by:	Dawn Charman
Date:	02/20/2024
Last Board Approval Date:	06/17/2024
Effective Term:	FA 2025