

Department of Clinical Laboratory & Medical Imaging Sciences
Radiologist Assistant Program
MSRA 5111 Imaging Pathophysiology & Clinical Pathways I

Course Description

This course investigates the role of radiology in the assessment of common diseases and disorders of body systems. It is part one of a sequence of two, three credit courses on this topic in the RA curriculum (Imaging Pathophysiology & Clinical Pathways I-II). Information relevant to the etiology, pathological processes, signs and symptoms, differential diagnoses, appropriate diagnostic tests, clinical pathways as they relate to radiology and key radiologic appearances is presented. The methods and techniques used in the systematic observation of static and dynamic diagnostic images to evaluate the presence of abnormalities, anomalies, and pathological conditions are also explored.

Credits/Modes of Instruction

3.0 Web Based

Prerequisites

The admission to the RA program, Learning Management System Orientation, MSRA 5110, 5400, 5120, and 5200. The expectation is that students are proficient in both oral and written communication and are able to function autonomously in a demanding academic environment. Prior knowledge of medical terminology, cross-sectional anatomy, and radiographic pathology is extremely helpful.

Course Goals and Objectives:

Goals

The course builds upon the knowledge acquired in Pathophysiology for Radiologist Assistants and reinforces as well as expand the knowledge of radiographic anatomy and pathology utilizing various imaging modalities as well clinical pathways related to radiology. By the end of the course the student should be able to evaluate radiographs using a systemic approach for each of the body systems addressed in the course. These basic understandings combined with critical thinking will enable the students to progress through the curriculum with a knowledge and analytical base necessary to excel during their clinical experiences.

Objectives

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

1. Recognize normal anatomical and physiological appearances, and identify those variations in image appearance that indicate pathology.
2. Incorporate a broad range of pathophysiology knowledge into the evaluation of case studies and demonstrate an understanding of appropriate imaging studies based upon the clinical setting and evidence-based data.
3. Make recommendation(s) for additional images or alternative imaging procedures as warranted for diagnostic purposes and radiology clinical pathways.
4. Assess the relevance of radiology procedures in relation to other diagnostic and therapeutic methods.
5. Identify criteria for evaluating clinical pathways.
6. Prepare a model clinical pathway related to a diagnostic/therapeutic procedure in the radiology environment.
7. Explain the relationship between clinical pathways and total quality management in radiology.
8. Discuss the pathophysiologic changes that occur as result of cellular inquiry as they relate to radiography.
9. Implement a systemic method or technique for observing static and dynamic patient images for the purpose of recognizing normal anatomical and physiological appearances, and those variations in appearance that may indicate pathology.
10. Formulate an internal memorandum of initial observations presented to the radiologist mentor for analysis.
11. Define clinical pathways as related to radiology.

12. Identify the rationale for the use of clinical pathways in the patient care setting.
13. Compose a model clinical pathway related to a radiologic diagnostic/therapeutic procedure.
14. Identify criteria for evaluating clinical pathways.
15. Explain variance analysis as it relates to clinical pathway assessment.