Jordan University of Science and Technology
Faculty of Applied Medical Sciences
Department of Allied Medical Sciences

Course Syllabus

Second semester (2013/2014)

Course Information	
Course Title	Introduction to diagnostic medical imaging
Course Number	PARA 322
Prerequisites	PARA 303
Credit hours	2 Theory
Lecture time	
Lecture location	
Instructor	Mustafa Alhasan
Office Location	Faculty of Applied Medical Sciences
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Office Hours	
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Course Description

This course introduces the student to the radiologic science from clinical and physical aspects. It provides basic knowledge related to the role of radiologic technologist, administrative process in the radiology department, terminology, and patient care. In addition, this course provides the physical principal of different imaging modalities including diagnostic radiography, ultrasound, nuclear medicine, and Magnetic resonance imaging (MRI).

Text Book	
Title	Medical Physics: Imaging
Author(s)	Pope J.
Publisher	Heinemann
Year	1999
Edition	First

Assessment Policy

Assessment Type	Expected Due Date	Percentage
First Exam		30%
Second Exam		30%
Final Exam	TBA	40%

Course Objectives	Percentage
1. Identify his/her role in the radiology department.	20%
2. Trace the process from admitting the patient to the radiology department to the issuing of the report.	20%
3. Illustrate good knowledge of terminology related to the radiology department.	20%
4. Show professional attitude toward the patients	20%

5. Demonstrate physical principal of different imaging modalities	20%

Teaching & Learning Methods
Lectures, visual demonstrations, group work, and personal contact

Learning Outcomes: Upon successful completion of this course, students will be able to		
Related Objective(s)	Outcomes	Reference(s)
1	Realize their role in the radiology department.	Handouts
2	Identify the imaging procedure from start to end.	Handouts
3	Make a good use of terminology.	Handouts
4	Deal with the patients professionally	Handouts
5	Link the physical principles of imaging modalities to their clinical applications.	Chapters 1, 2, 3, and 4.

Useful Resources
World Wide Web and University Library.

Course Content			
Week		**Topic**	**Chapter in Text (handouts)**
1		Introduction to radiation physics Terminology	Handouts
2		The x-ray department Introduction to radiographs	Handouts

3		Patient care	Handouts
4		X-rays and their production X-ray Spectra Attenuation mechanism	Handouts
5		Diagnostic applications for x-ray Advantages and disadvantages of diagnostic x- ray	Handouts
6		First exam	
7		The interaction of ultrasound with tissue Ultrasound scanning The A-mode	Handouts
8		The B-mode Image clarity Applications of pulse-echo imaging	Handouts
9		Biological effects of ultrasound Advantages and disadvantages of ultrasound Some basic	Handouts
10		Second exam	
11		Emission of artificial radionuclides Radiopharmaceuti	Handouts
12		Advantages and disadvantages of radionuclide	Handouts
13		MRI safety Advantages and disadvantages of	Handouts
14		Factors influencing signal intensity Instrumentation and equipment Applications of MRI	Handouts
15		Review	
16		Final exams period	