



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

RA216 Principles Of Diagnostic Imaging 1

Second Semester 2022-2023

Course Catalog

2 Credit Hours. This course introduces the student to the radiologic technology science and explains the process of image formation including radiographic film structure, latent image formation, and processing of the x-ray film. In addition, it describes the factors which affect and image quality.

Text Book

Title	Radiologic Science for Technologists.
Author(s)	Bushong S.
Edition	9th Edition
Short Name	1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
2	LXi tutorials on medical X-ray imaging physics	Cowen A.	1st Edition	

Instructor

Name	Dr. Maram Alakhras
Office Location	-
Office Hours	Sun : 11:30 - 13:30 Mon : 11:30 - 13:30 Tue : 11:30 - 13:30 Wed : 14:30 - 16:00
Email	mmalakhras@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Sun, Tue : 08:30 - 09:30

Room: M4202

Teaching Assistant

Rasha Elshayib(Section 1)

Prerequisites

Line Number	Course Name	Prerequisite Type
142111	RA211 Physics Of Radiology	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	X-ray room components and design X-ray tube construction	From 1, From 2
Week 2	X-ray room components and design X-ray tube construction	From 1, From 2
Week 3	Production of X-ray	From 1, From 2
Week 4	Production of X-ray	From 1, From 2
Week 5	Anode heel effect	From 1, From 2
Week 6	X-ray interactions with matter	From 1, From 2
Week 7	X-ray interactions with matter	From 1, From 2
Week 8	Radiographic film	From 1, From 2
Week 9	Intensifying screen	From 1, From 2
Week 10	Scatter radiation	From 1, From 2
Week 11	Beam restricting devices	From 1, From 2
Week 12	Radiographic grids	From 1, From 2

Week 13	Exposure factors	From 1, From 2
Week 14	Automatic Exposure control	From 1, From 2
Week 15	Radiographic image quality 1	From 1, From 2
Week 16	Radiographic image quality 2	From 1, From 2

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
1. Identify the basic parts of the x-ray tube	20%	
2. Describe the process of x-ray production	20%	
3. Identify the methods of reducing the effect of scattered radiation	20%	
4. Describe the steps of image processing	20%	
5. Understand all factors which affect the production of high quality radiograph.	20%	

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