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

RA218 Principles Of Diagnostic Imaging 1 Lab
Second Semester 2022-2023

Course Catalog
1 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: Thu : 08:30 - 10:30
Room: LAB

Section 2:
Lecture Time: Thu : 10:30 - 12:30
Room: LAB

Section 3:
Lecture Time: Thu : 12:30 - 14:30
Room: LAB

Section 4:
Lecture Time: Thu : 14:30 - 16:30
Room: LAB

Section 5:
Lecture Time: Wed : 09:30 - 11:30
Room: LAB

Teaching Assistant
Rasha Elshayib(Sections 1, 2, 3, 4, 5)

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	X-ray tube construction	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 1	From **1**, From **2**
Week 7	Imaging artefacts	From **1**, From **2**
Week 8	Basics of conventional radiography	From **1**, From **2**
Week 9	Radiographic film and Intensifying screen	From **1**, From **2**

Week 10	Automatic Exposure control	From **1**, From **2**
Week 11	Image processing	From **1**, From **2**
Week 12	Properties of screen-film systems	From **1**, From **2**
Week 13	Scatter radiation	From **1**, From **2**
Week 14	Beam restricting devices	From **1**, From **2**
Week 15	Radiographic grids	From **1**, From **2**
Week 16	Exposure factors	From **1**, From **2**

Mapping of Course Outcomes to Program Outcomes	**Course Outcome Weight (Out of 100%)**	**Assessment method**
1. Describe the effect of scattered radiation	20%	
2. Describe the structure of x-ray film, intensify screen and the process of image formation	20%	
3. Radiography equipment and radiation safety procedures	20%	
4. kVp and mAs effects	20%	
Technique charts	20%	

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