



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

RA311 Principles Of Diagnostic Imaging 2

First Semester 2023-2024

Course Catalog

2 Credit Hours. This course explains the concepts of radiographic image quality, the digital radiographic image, image artifacts and quality control and advanced x-ray imaging. Special topics include mammography, fluoroscopy, interventional radiology, multislice helical computed tomography, and the various modes of digital imaging will be covered.

Text Book

Title	Radiologic Science for Technologists.
Author(s)	Bushong S
Edition	12th Edition
Short Name	1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
2	Mammography for Radiologic Technologist	Wentz G. and Parsons W	2nd Edition	

Instructor

Name	Dr. Mustafa Alhasan
Office Location	Faculty of Applied Medical Sciences
Office Hours	Sun : 10:30 - 12:30 Mon : 14:30 - 15:30 Tue : 10:30 - 12:30 Wed : 14:30 - 15:30
Email	mkalhasan@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue : 12:30 - 13:30 Room: M4202

Teaching Assistant
Rasha Elshayib(Section 1)

Prerequisites		
Line Number	Course Name	Prerequisite Type
1112180	P.T218 Gross Anatomy & Histology	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Digital Radiographic Image: Computed radiography part 1	From 1
Week 2	Digital Radiographic Image: Computed radiography part 2	From 1
Week 3	Digital x-ray imaging. Digital imaging. Image characteristics, Dynamic range	From 1
Week 4	Digital Image quality	From 1
Week 5	Advanced x-ray imaging: Fluoroscopy	From 1
Week 6	Advanced x-ray imaging: Mammography	From 2
Week 7	Advanced x-ray imaging: Digital breast tomosynthesis	From 2
Week 8	Special Imaging Methods: Tomography	From 1
Week 9	Special Imaging Methods: Stereoradiography and magnification imaging	From 1
Week 10	Radiographic factors	From 1
Week 11	Film Processing	From 1
Week 12	Image Artifacts	From 1
Week 13	Imaging techniques	From 1, From 2
Week 14	Digital Radiographic Image: Digital radiography part 1	From 1
Week 15	Digital Radiographic Image: Digital radiography part 2	From 1
Week 16	Revision	From 1, From 2

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method

To know the components of digital radiography system and the principle of operation	20%	
Understanding the principle of image formation in digital radiography systems	20%	
Describe the image intensifier tube and its major parts	10%	
Describe the TV camera tube and identify its principles of operation	15%	
Understand mammography and its imaging requirements	15%	
Identify the basic principles of digital breast tomosynthesis	5%	
Describe magnification and tomography principles of operation and system requirements	15%	

Policy	
Statement on Professionalism	Professional behavior is expected of students at all times. Attitude and professional behavior are a minimum criterion for passing this class. Examples of unprofessional behavior include but are not limited to: missing classes, tardiness, lack of attention for a speaker, talking to others during lecture, leaving a lecture prior to its completion without prior authorization of the instructor, working on other class material during class, and sleeping during class.
Cheating	University regulations will be applied on cases of cheating and/or plagiarism
Cell phone	The use of cellular phone is prohibited in class rooms and during exams. The cellular phone must be switched off in class rooms and during exams.
Attendance	No points will be count for points attendance of this class, however attending the lectures will greatly enhance your grade. The student is responsible for any information discussed in lecture sessions. It is imperative to attend all classes!
Absences	University regulations will be applied. Students are not allowed to be absent for more than 20% of lectures for any reason or excuse. If a student exceeds the absence limit, he or she will not be allowed to sit for future course exams. (Please review university regulation for more details)
Make-up Exam	Make-up exams is entitled for students who miss the exam with accepted legal or medical excuse endorsed by the instructor within 24 hours after the scheduled exam (Please review university regulation for more details)
Feedback	Concerns, complaints, questions, and/or feedback are appreciated and will be important for the instructor. You can contact your instructor using the e-mail or during office hours.

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