



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

RA746 Advanced Medical Images Interpretation - JNQF Level: 9

Second Semester 2022-2023

**Course Catalog**

2 Credit Hours. This course focuses on the advanced principles and techniques involved in interpreting medical images across multiple modalities, including X-ray, CT, MRI, ultrasound, and nuclear medicine (SPECT and PET). Students will develop proficiency in recognizing normal and abnormal anatomical structures, understanding pathophysiological patterns, and correlating imaging findings with clinical data. Key topics include advanced image analysis, radiologic-pathologic correlations, artifact identification, and comparative imaging across modalities for diagnosis. The course also emphasizes clinical decision-making, reporting standards, and ethical responsibilities in diagnostic imaging. Through case studies and practical sessions, students will enhance their skills in image-based problem-solving, fostering collaboration with multidisciplinary teams in radiology and healthcare settings.

**Teaching Method:** On Campus

**Instructor**

Name	<b>Prof. Haytham Al Ewaidat</b>
Office Location	Vice Dean Office
Office Hours	Sun : 10:30 - 12:30 Mon : 14:30 - 15:30 Tue : 10:30 - 11:30 Wed : 14:30 - 15:30 Thu : 14:30 - 15:30
Email	haewaidat@just.edu.jo

**Class Schedule & Room**

Section 1:  
 Lecture Time: Thu : 08:30 - 10:30  
 Room: M1302

**Tentative List of Topics Covered**

Weeks	Topic	References
Week 1	Introduction to Advanced Imaging Modalities	

Week 2	Radiographic Anatomy and Pathology	
Week 3	Computed Tomography (CT) Interpretation	
Week 4	Magnetic Resonance Imaging (MRI)	
Week 5	Ultrasound Imaging	
Week 6	Nuclear Medicine	
Week 7	Interventional Radiology	
Week 8	Pediatric Imaging	
Week 9	Advanced Imaging Techniques	
Week 10	Ethics and Legal Considerations	
Week 11	Image Quality and Artifacts	
Week 12	Case Studies in Medical Imaging	
Week 13	Artificial Intelligence in Imaging	
Week 14	Multidisciplinary Collaboration	
Week 15	Review Session	
Week 16	final exam	

<b>Mapping of Course Outcomes to Program Outcomes and NQF Outcomes</b>	<b>Course Outcome Weight (Out of 100%)</b>	<b>Assessment method</b>
Develop the ability to analyze and interpret medical images across multiple modalities using a systematic approach to ensure diagnostic accuracy. [1PLO M3] [1L9S3]	20%	
Accurately recognize and describe normal anatomical structures, anatomical variants, and a wide range of pathological conditions visible in radiographic images, including CT and MRI. [1PLO M1] [1L9K1]	20%	
Apply interpretation skills in clinical contexts by integrating findings with patient history and other diagnostic data to assist in treatment planning. [1PLO M2] [1L9S2]	20%	
Evaluate the quality of medical images, identifying artifacts, image distortions, or factors that may compromise diagnostic accuracy. [1PLO M7] [1L9C6]	20%	
Explore advancements in imaging, such as artificial intelligence applications and novel imaging modalities, and their impact on diagnostic practices and patient care. [1PLO M5] [1L9K3]	20%	

<b>Relationship to Program Student Outcomes (Out of 100%)</b>						
PLO M1	PLO M2	PLO M3	PLO M4	PLO M5	PLO M6	PLO M7
20	20	20		20		20

Relationship to NQF Outcomes (Out of 100%)				
L9K1	L9K3	L9S2	L9S3	L9C6
20	20	20	20	20

Evaluation	
Assessment Tool	Weight
first exam	25%
second exam	25%
final exam	50%

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