



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

RA467 Computed Tomography

First Semester 2023-2024

Course Catalog

2 Credit Hours. This course aims at introducing the students to the concepts of CT scanning and the physics and equipment behind CT. They will get familiar with different CT scanner generations, types and types of detectors. Furthermore, they will learn how the CT images are acquired, displayed, manipulated and stored. The students will get familiar with scanning protocols of each of the following body areas: head, spine, chest, abdomen, pelvis, upper and lower extremities. They will learn the indications and contraindications of each protocol, in addition to learning the specific anatomy and most common pathologies. Advanced techniques and modern CT scanners are also presented in this course.

Teaching Method: On Campus

Text Book

Title	Computed Tomography for Technologists
Author(s)	Louis E. Romans
Edition	2nd Edition
Short Name	Computed Tomography for Technologists
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
CT physics	CT physics	Brink, JA, et al "Helical CT: principles and technical considerations." and Peters, T. "CT Image Reconstruction"	2nd Edition	

Instructor

Name	Dr. Badera Almohammad
Office Location	-
Office Hours	

Email	bmalhammad@just.edu.jo
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Class Schedule & Room

Section 1: Lecture Time: Mon, Wed : 14:30 - 15:30 Room: M4202

Teaching Assistant

Rasha Elshayib(Section 1)

Prerequisites

Line Number	Course Name	Prerequisite Type
143360	RA336 Radiographic Cross Sectional Anatomy Lab	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Introduction and terminology	
Week 2	CT components and their functions	
Week 3	Generations of CT scanners	
Week 4	Scout image, and single versus multi slice CT scanners	
Week 5	CT detectors; types, arrays and their role in determining slice thickness	
Week 6	CT parameters and pitch	
Week 7	Image acquisition	
Week 8	Image display and windowing	
Week 9	Image manipulation and image quality	
Week 10	CT procedures 1, head CT scan	
Week 11	CT procedures 2, chest scan	
Weeks 12, 13	CT procedures 3, abdomen pelvis scan	
Week 14	CT procedures 4, spine imaging	
Week 15	CT procedures 5, upper and lower extremity	
Week 16	Revision	

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Learning the concepts of CT scanning and the physics and equipment behind CT	20%	First exam
Get familiar with different CT scanner generations, types, and types of detectors.	20%	First exam
Students will learn how the CT images are created, acquired, displayed, manipulated and stored.	10%	
Students will learn the scanning protocols of each of the following body areas: head, spine, chest, abdomen, pelvis, upper and lower extremities. They will learn the indications and contraindications of each protocol, in addition to learning the specific anatomy and most common pathologies.	50%	

Relationship to Program Student Outcomes (Out of 100%)												
PLO B1	PLO B2	PLO B3	PLO B4	PLO B5	PLO B6	PLO B7	PLO M1	PLO M2	PLO M3	PLO M4	PLO M5	PLO M6

Evaluation	
Assessment Tool	Weight
First exam	30%

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