



الهيئة القومية لضمان جودة التعليم والاعتماد قطاع التعليم العالي

Course Specification

1- Basic Information

Course Title (according to the bylaw)	RIS				
Course Code (according to the bylaw)					
Department/s participating in delivery of the course	Radiology & Medical Imaging Technology				
Number of credit hours/points of the course (according to the bylaw)	Credit hrs.	Contact			
		Lec	Tut	Lab	Total
		1		2	2
Course Type	Obligatory				
Academic level at which the course is taught	Level 3				
Academic Program	Radiology & Medical Imaging Technology				
Faculty/Institute	High Technology Institute Of Applied Health Sciences				
University/Academy	Badr Institute Of Sciences and Technology				
Name of Course Coordinator					



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Course Specification Approval Date	Click or tap to enter a date.
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	





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2- Course Overview

provides the fundamental concept of computerized and digital radiography with emphasis on PACS. PACS equipment QC. and total quality management of CR and DR systems. The focus is directed on ensuring quality in PACS and quality acceptance testing with the digital projection imaging will be discussed. Quality control in fluoroscopic units will also including tomographic quality

control.....
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3- Course Learning Outcomes

Consistency of course learning outcomes with program outcomes (adopted standards)

Program Outcomes/Adopted Academic Reference Standards (PO Target by the course based on matrix)		Course Learning Outcome By the end of this course the student will be able to:	
Cod e	Statement	Code	Statement
A.1	Demonstrate an understanding of fundamental knowledge of basic applied health sciences (anatomy, physiology, physical chemistry, microbiology, general		
		a1	Describe the principles and components of screen/film radiographic systems.
	physics, mechanics,		



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<p>A.2</p> <p>A3</p>	<p>mechatronics,.....).</p> <p>Understand and deal with the interdisciplinary sciences</p> <p>Study human anatomy and pathology to understand the physiological basis of the images</p>	<p>a2</p> <p>a3</p>	<p>Understand the physical factors influencing radiographic image quality, such as density and contrast</p> <p>Explain the tradeoff between image quality and patient dose and how to overcome scattered radiation</p>
<p>B1</p>	<p>Use computers and software to analyze problems.</p>	<p>b1</p>	<p>Analyze the relationship between exposure parameters and resulting image quality</p>



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B2	Realize some basic concepts of human rights .	b2	Identify and classify radiographic artifacts based on their appearance and origin.
B3	Realize the concept of quality		
B3	Work safely in the lab environment and possess the basic competencies necessary for a range of practical techniques.	b3	Evaluate the causes and implications of magnification and distortion in radiographs.
C1	Apply statistical skills in data manipulation & presentation.	c1	Apply appropriate techniques for optimizing image quality in clinical radiographic practice.
	Perform the most common experiments in biological & basic sciences including (Bio-electrodes & Biosensors, Hooke's law, osmosis, diffusion, Wheatstone bridge, Archimedes principles, Magnetometer, Ohm law and Measurements of viscosity by stokes Law, Law of Reflection & lenses, Light	c2	Operate and evaluate digital imaging systems and related software.
C2			Conduct basic troubleshooting of image quality issues and propose corrective actions.



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C3	<p>microscope & perform microbial staining).</p> <p>Communicate effectively & develop collaborative relationships with all health members.</p> <p>Manage multiple tasks and conduct research projects.</p>	c3	<p>Communicate effectively in written and oral form about technical aspects of image management.</p>
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		d1	
		d2	<p>Apply critical thinking and problem-solving skills to image evaluation scenarios.</p>

4- Learning Methods



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1. Interactive Lectures
2. Discussion and brain storming
3. Asynchronous learning
4. Self-Directed Learning (SDL):
Research and presentation ,Assignment , reports
5. Practical Learning
6. Asynchronous learning
7. Extra lectures
8. Guidind during office hours

5- Course Timetable

Week No.	Course Content/Topics	Total Weekly hours	Expected learning hours (contact hours)		
			نظري	تمارين	عملي
1	Introduction to Image Management in Radiology			2 hrs	
2	Screen/Film Radiography: Components and Processing		4 hrs	4 hrs	
3	Film Speed: Definition, Measurement, and Clinical Impact		2 hrs	2 hrs	



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4	Radiographic Density: Influencing Factors and Optimization		2 hrs	2 hrs	
5	Radiographic Contrast: Types, Influences, and Clinical Relevance		2 hrs	2 hrs	
6	Mid term			----- ----- ---	
7	Magnification and Distortion: Causes and Minimization Techniques		2 hrs	2 hrs	
8	Image Sharpness, Spatial Resolution, and Definition		2 hrs	2 hrs	
9	Computerized and Digital Radiography		2 hrs	2 hrs	
10	PACS: Components, Workflow, Integration with RIS		2 hrs	2 hrs	
11	Common Radiographic Artifacts: Causes and Preventive Measures		2 hrs	2 hrs	
12					
13					
14	Practical examination				
15	Final written exam				



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6- Student Assessment Methods

No .	Assessment method*	Assessment time (Week No.)	Rating Score s	Percentage of the total course grade
1	Written exam 1 (term work)			
2	Written exam 2 (term work)			
3	Final written exam	100		
4	Final Practical exam	30		
5	Final oral exam			
6	Activities / Project / Activity Booklet			
7	Filed training			
8	Other (list)			

* The methods mentioned above are indicative examples, and may add and delete

7- Learning Sources and Facilities

Learning resources (books,	Main Reference	Authors, <i>The Book Title</i> . Publisher, Edition, Year.
	Other references	Bushong, S.C., Radiologic Science



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scientific references, etc.) *		for Technologists: Physics, Biology, and Protection Carlton & Adler, Principles of Radiographic Imaging Online PACS simulations and DICOM viewers
	Electronic Resources (Add the link)	Radiopaedia.org Knowledge bank: https://www.ekb.eg/ar
	Educational Platform (add the link)	https://bislms.mans.edu.eg/
	Other (List)	
Educational support equipment for teaching and learning *	Devices	كمبيوتر – بروجيكتور – سبورات
	Supplies	-
	Software	برنامج ابن الهيثم
	Skills Labs/Simulators	
	Virtual Labs	
	Other (List)	

* The mentioned list is indicative examples, and the institution may add and delete depending on the nature of the course.

Name and Signature
Course Coordinator

Name and Signature
Program Coordinator



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