



الهيئة القومية لضمان جودة التعليم والاعتماد قطاع التعليم العالي

Course Specification

1- Basic Information

Course Title (according to the bylaw)	Maintenance of medical Equipment of radiology				
Course Code (according to the bylaw)	305				
Department/s participating in delivery of the course	-----				
Number of credit hours/points of the course (according to the bylaw) Course Type	Credit hrs.	Contact			
		Lec	Tut	Lab	Total
	2	1	---	2	2
Course Type	Obligatory				
Academic level at which the course is taught	Third year (1st semester)				
Academic Program	Radiology & Medical Imaging Technology				
Faculty/Institute	Institute of High Technology Institute of Applied Health Science				
University/Academy	Badr Higher Institutes of Science and Technology				
Name of Course Coordinator	Dr. Amira Atef				
Course Specification Approval Date	Department Council No. 2, date: (-9-2024) Institute Council No. 37, date: (-9-2024)				
Course Specification Approval (Attach the decision/minutes of the department /committee/council)					





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2- Course Overview

This course provides the students with the principles of different equipment and medical devices used in the field of radiology and medical imaging. Students will gain basic knowledge about how these devices are working, how to monitor detect and report any malfunction

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:	
Code	Statement	Code	Statement
A	A. Apply quality control measures to ensure test accuracy and reliability	a/1	Introduction in Maintenance of radiology Equipment
		a/2	radiology Facilities
		a/3	radiology environmental health and safety
		a/4	radiology inspection program
	A.2 Operate equipment safely and troubleshoot medical imaging devices	a/5	Routine maintenance of radiology equipment
		a/6	radiology equipment maintenance checklist
	A.3 Troubleshoot technical errors and interpret results effectively in medical radiology practice	a/7	radiology Management
		a/8	Quality Assurance & computerized maintenance.
B	B.1 Contribute to design and monitor medical radiology quality systems.	b/1	radiology environmental health and safety



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	B.2 Perform, maintain and evaluate routine and advanced diagnostic imaging procedures (x-ray, ultrasound and nuclear medicine). B3. Assist in interventional radiology procedures under professional supervision.	b/2	Routine maintenance of radiology equipment
		b/3	radiology equipment maintenance checklist
C	C.1 -Apply critical and reflective thinking to resolve questions. C. Revise a personal learning plan to enhance professional practice C. Demonstrate an understanding of fundamental knowledge of basic and applied health sciences.	c/1	radiology equipment maintenance checklist
		c/2	Management
		c/3	radiology Facilities
D	D.1 Contribute to continuous quality management and improvement. D. D.3. Participate in internal and external medical imaging audits and accreditation processes	d/1	Work effectively in team.
		d/2	Communicate ideas and argument effectively.
		d/3	Acquire presentation skills.
		d/4	Manage time effectively and use informational technologies during learning

4- Learning Methods

1. Interactive Lectures
2. Practical learning
3. Self-Directed Learning (SDL)



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5- Course Timetable

Week No.	Course Content/Topics	Total Weekly hours	Expected learning hours (contact hours)		
			نظري	تمارين	عملي
1	Introduction in Maintenance of medical radiology Equipment	2	1	--	2
2	radiology Facilities	2	1	--	2
3	radiology environmental health and safety	2	1	--	2
4	radiology inspection program	2	1	--	2
5	Routine maintenance of radiology equipment Part 1	2	1	--	2
6	Routine maintenance of radiology equipment	2	1	--	2
7	Mid-term exam				
8	Routine maintenance of radiology equipment Part 3	2	1	--	2
9	radiology equipment maintenance checklist	2	1	--	2
10	radiology Management I	2	1	--	2
11	Management II	2	1	--	2
12	Quality Assurance & computerized maintenance I	2	1	--	2
13	Quality Assurance & computerized maintenance II	2	1	--	2
14	Practical exam				
15	Final exam				

6- Student Assessment Methods

No.	Assessment method*	Assessment time (Week No.)	Rating Scores	Percentage of the total course grade
1	Written exam 1 (term work)	7	20	20%
2	Written exam 2 (term work)	-----	-----	20%
3	Final written exam	15	50	-----



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4	Final Practical exam	14	30	50%
5	Final oral exam	-----	-----	30%
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, scientific references, etc.) *	Main Reference	Maintenance of radiology Equipment book
	Other references	Knowledge bank: https://www.ekb.eg/ar
	Electronic Resources (Add the link)	1-Zamzam, AizatHilmi, et al. "A systematic review of medical equipment reliability assessment in improving the quality of healthcare services." Frontiers in Public Health 9 (2021): 753951. 2- Gu, Hairui, and Baichun Yang. "Research on Laboratory Management and Maintenance Methods in Institutions of Vocational College." (2018). 3- Ratliff, Thomas A. The laboratory quality assurance system: a manual of quality procedures and forms. John Wiley & Sons, 2005.
	Educational Platform (add the link)	https://bislms.mans.edu.eg/moodle2024/
	Other (List)	https://www.ekb.eg/ar
Educational support equipment for teaching and learning *	Devices	Projector, Desktop Computer
	Supplies	White board Markers
	Software	Model ابن الهيثم
	Skills Labs/Simulators	Practical Skills Labs
	Virtual Labs	-----
	Other (List)	-----

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



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**Name and Signature
Course Coordinator**

**Name and Signature
Program Coordinator**