Course Specifications

General Information

Course name	Medical Imaging
Course number	MDCN4225
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	2
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Knowledge acquisition: The course aims to provide students with a comprehensive understanding of the principles, techniques, and applications of radiology

2 - Skill development: Students are trained in the practical aspects of radiology, including positioning and handling of patients, operating radiographic equipment, and obtaining high-quality images. They also learn about image processing, manipulation, and enhancement techniques

3 - Image interpretation: Students should be able to develop the ability to interpret radiographic images accurately.

4 - Communication and teamwork: Radiologists often work as part of a multidisciplinary team, so the course emphasizes the development of effective communication skills. Students learn how to convey radiological findings clearly and concisely to other healthcare professionals, collaborate in patient care, and participate in multidisciplinary discussions.

5 - Professionalism and ethics: Students are introduced to ethical considerations and professional responsibilities in radiology, including patient privacy, informed consent, and radiation safet

Intended Learning Outcomes

Knowledge and Understanding	* Knowledge: Students should demonstrate a comprehensive understanding of radiographic imaging modalities, including their principles, advantages, limitations, and app
Intellectual Skills	* Diagnostic Skills: Develop the ability to use radiological imaging as a diagnostic tool effectively, correlating imaging findings with clinical information to make accurate diagnoses and contribute to patient management plans
Professional Skills	* Technical Skills: Acquire proficiency in the practical aspects of radiology, including patient positioning and handling, operation of radiographic equipment, and obtaining high-quality images
General Skill	* Image Interpretation: Apply knowledge and critical thinking skills to interpret radiographic images accurately, identify normal anatomical structures, recognize pathological conditions, and differentiate between various disease processes and injuries.

Course Contents

1 - Introduction to Diagnostic Radiology: History, Scope, and Importance
2 - Radiographic Techniques: Principles and Equipment
3 - X-ray Imaging: Interpretation and Common Findings
4 - CT Imaging: Abdomen and Pelvis
5 - CT Imaging: Chest and Cardiovascular System
6 - MRI Imaging: Brain and Spinal Cord
7 - MRI Imaging: Musculoskeletal System
8 - Ultrasound Imaging: Abdominal and Pelvic Organs
9 - Interventional Radiology: Principles and Techniques
10 - Nuclear Medicine Imaging: Principles and Applications
11 - Chest Radiology: Interpretation and Imaging of Pulmonary Diseases

Teaching and Learning Methods

1 - Lectures: Traditional lectures are commonly used to present fundamental concepts, principles, and theoretical knowledge related to radiology.
2 - Clinical Rotations: students work in radiology departments under the guidance and supervision of experienced radiologists.
3 - Case-based Learning: This approach involves presenting students with clinical cases that require radiological interpretation and analysis
4 - Hands-on Training: Students often have opportunities to practice radiographic positioning and imaging techniques in a supervised setting

Students Assessment

Assessment Method	TIME	MARKS
Theoretical multiple-choice question (MCQ) exams	1 Hours	100

Books and References

Essential books	Grainger & Allisons Diagnostic Radiology: A Textbook of Medical Imaging
Recommended books	Learning Radiology: Recognizing the Basics
	Fundamentals of Diagnostic Radiology