Faculty of Oral & Dental Medicine

Diagnosis & Radiology

Information :

Course Code :	MPDR 431	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Faculty of Oral & Dental Medicine

Instructor Information :

Title	Name	Office hours
Associate Professor	Dina Fahim Abdel Rahim Ahmed	5
Lecturer	SARA ZAKARIA FAHIM FANOS	4
Lecturer	Doaa Ahmed Fouad Ahmed Hamed	2
Lecturer	Mona Ahmad Saeed Mokhtar Mohamed Nour	4
Lecturer	SARA ZAKARIA FAHIM FANOS	4
Lecturer	Doaa Ahmed Fouad Ahmed Hamed	2
Assistant Lecturer	Rana Mohamed Ashrf Hazem Ibrahim	16
Assistant Lecturer	Rana Mohamed Ashrf Hazem Ibrahim	16
Teaching Assistant	Dina Nasser Tawfik Mahmoud Gibriel	10
Teaching Assistant	Ahmed Ragheb Ahmed Ragheb Hassan	
Teaching Assistant	Dina Nasser Tawfik Mahmoud Gibriel	10
Teaching Assistant	Ehab Raafat Nasr Hassan	
Teaching Assistant	Ahmed Taha Mohamed Salama	

Area Of Study :

1. To provide the students with basic information related to X-ray nature, production, equipments and materials used in the process of radiography.
2. To demonstrate and train students to perform all intra oral radiographic examination in terms of exposing, processing, and handling radiographs.
3. To enable the students to interpret radiographic images used in the dental profession.
4. To appreciate safety procedures to avoid hazards to themselves, to the patients and to the environment.

Description :

Physics of radiology, protection from hazards, Radiographic Techniques, Anatomical Landmarks, Occlusal and Panoramic Radiographs, Radiation Positions, x -ray film Processing, periapical lesions, periodontal diseases, interpretation of radiograph.

Course outcomes :

a.Knowledge and Understanding: :

1 -	understand, radiation physics, including X-rays production, different components of X-ray machine and the various properties of X-rays

2 -	Discuss how images are produced and identify different image characteristics as density, contrast, sharpness and resolution. Illustrate all factors affecting these characteristics.
3 -	Identify types of radiographic films by size, number and speed (intra-oral and extra-oral). Explain the underlying principles of the use of screens and discuss its different types and structure.
4 -	Explain the principles of all the intra oral radiographic techniques
5 -	5- Recognize how images are produced by processing and describe different processing techniques and chemicals.
6 -	Understand the digital radiography systems and their advantages and uses.
7 -	Explain the principles of extra-oral radiographic techniques and understand their indications.
8 -	Recognize and identify different radiographic pitfalls, their causes and method of overcome.
9 -	Recognize, identify and list anatomical landmarks related to various intra-oral and extra-oral radiographs.
10 -	Discuss major principles of radiation biology, doses, and methods of protection with special emphasizes on the ALARA concept
11 -	Discuss the methodological approach and principles of radiographic interpretation and description of lesions.
12 -	Recognize and describe different carious lesions and radiographic methods of their evaluation.
13 -	Recognize and describe different periodontal lesions and radiographic methods of their evaluation
b.Intellectual Skills: :	
1 -	Make decisions regarding proper radiographic prescription.
2 -	Formulate complete radiographic report for intraoral CMS, panoramic and extra oral radiographs.
c.Professional and Practical Skills: :	
1 -	Apply their knowledge and skills in radiographic techniques and processing to acquire excellent diagnostic quality radiographs
2 -	Complete full mouth periapical, bitewing, and occlusal survey images (CMS) for adults and children.
3 -	Perform different extra-oral radiographic techniques by applying proper principles and interpretation
4 -	Appreciate normal radiographic anatomy and variations as well as common dental pathology seen on intraoral radiographs
5 -	Learn the radiographic interpretation basics to enhance diagnostic skills and also on extra-oral radiography, panoramic radiography and digital radiography.
6 -	Identify different radiographic carious lesions.
7 -	Perform radiographic assessment means of different periodontal lesions.
8 -	Interpret radiographs of some teeth-related syndromes, as well as traumatic injuries of teeth and jaws.
d.General and Transferable Skills: :	
1 -	Demonstrate appropriate professional attitudes and behavior in different situations toward patients, colleagues and supervisors.
2 -	Provide empathic care for all patients without discrimination.
3 -	Regularly assess oneâs knowledge and skills, and seek additional information to correct deficiencies and enhance performance.
4 -	Implement and monitor infection control and environmental safety programs according to current standards.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
physics of radiation	4	Å Introductio n to the course Å Nature and types o	ÅX ray machine accessories ÅImage characters ÅE
principles of image production	4	ÅDental film	ÅProcessing ÅDemo processing
dental radiography equipment	4	IO techniques (periapical)	ÅDemo IO techniques Å Infection control
intraoral radiographic techniques	4	ÅIO techniques (bitewing and occlusal) Å Object l	ÅPeriapical upper and lower central
object localization techniques	4	ÅIO landmarks (mandible and maxilla)	ÅPeriapical upper and lower canine
image processing	4	ÅEO views ÅEO landmarks	ÅPeriapical upper and lower molars
common radiographic pitfalls and artifacts	4	Å Panoramic radiograph y (principle, technique and	ÅCommon technique and processing errors
radiation protection	4	Å Alternative and specialized imaging modalities	ÅDemonstration on panoramic and cephalometric mac
Radiographic normal anatomical landmarks	4	Å Alternative and specialized imaging modalities (c	ÅDosimetry Å Biological effects of radiation
extra-oral radiographic techniques, indications, and normal anatomy	4	ÅPrinciples of interpretati on Å Description of a	Bitewing premolars and molars

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
panoramic radiography	4	ÅCaries	Processing of requirements
Principles of radiographic interpretation	4	Å Periodontal diseases Å Periapical lesions	Processing of requirements
Interpretation of radiographs in periodontal disease	4	Traumatic injuries	Writing radiographic report (caries, periapical, P
Interpretation of radiographs in various dental anomalies			
traumatic injuries			

Teaching And Learning Methodologies :

4-1 Lectures by PPS presentations

4-2 Open ï discussion lectures

4-3 Clinical training: ÅDemonstrations and videos ÅCase studies and reports ÅWork sheets and surveys ÅReport back sessions

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
1st Mid-term Examinations	15.00	6	assess knowledge and understanding
2nd Mid-term Examinations	15.00	11	assess knowledge and understanding
Final written Examination	25.00	15	to assess knowledge and understanding
Oral Examination	10.00	15	assess knowledge and understanding, and personal conduct.
Practical Examination	15.00	14	assess practical skills
Semester Work	20.00		

Course Notes :

Hand out : available for students from the department

Recommended books :

Essentials of dental radiography and radiology, Eric Waites