Islamic University in Najaf - Faculty Of Dentistry
Quality Assurance and Academic Accreditation unit

Course Description

Department of Oral & Maxillofacial Surgery

2024

Course Description Form

1. Course Name:
Radiology
2. Course Code:
D318
3. Semester / Year:
Third year
4. Description Preparation Date:
16-4-2024
5. Available Attendance Forms:
Available
6. Number of Credit Hours (Total) / Number of Units (Total)
Theoretical 2 clinical 2
7. Course administrator's name (mention all, if more than one
Dr.Abbas Alaboudy Email: kufa54@iunajaf.edu.iq
8. Course Objectives

Course Objectives	1. Understand the fundamental principles of dental radiography, including the characteristics of X-rays, radiation safety measures, and equipment used in dental radiography. 2. Learn about different types of dental X-ray techniques, such as intraoral and extraoral radiography, and understand when each type is appropriate for specific diagnostic purposes. 3. Develop the skills to correctly position and expose dental X-ray images, ensuring optimal quality and diagnostic value while minimizing patient exposure to radiation. 4. Recognize normal anatomical structures and common pathological conditions seen on dental radiographs, including caries, periodontal disease, and various types of dental anomalies. 5. Gain proficiency in interpreting dental radiographic images, including identifying abnormalities, assessing bone levels, and understanding the implications for treatment planning. 6. Understand the role of dental radiography in comprehensive patient care, including its importance in diagnosis, treatment evaluation, and long-term oral health management. 7. Familiarize yourself with digital radiography systems and software used in modern dental practices, including image acquisition, storage, retrieval, and manipulation. 8. Develop effective communication skills for discussing radiographic findings with patients, colleagues, and other healthcare professionals, and for documenting findings in patient records. 9. Appreciate the ethical and legal considerations related to dental radiography, including patient consent, confidentiality, radiation protection

9. Teaching and Learning Strategies

Strategy	Lecture-Based teaching: Blackboard illustrations Power point presentation on Data show projector Teacher-student interaction or Question-answer In-lecture Quiz Laboratory based teaching; Demonstration for each laboratory step Monitoring student (Hands-on) performance under guided supervision

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	• To know the nature of radiation physics and production • To understand the radiation	Production of radiation	Lecture	

2	1	• To know the radiation Production technology. • To understand the basic components of x-ray machine and the mode of work. • To comprehend the interaction of x-ray with matter.	Production of radiation	Lecture	
3	1	• To know basics of film imaging Extraction of teeth • To recognize the different types of x-ray films. • To understand Indications of teeth extraction. • To comprehend the processing cycle, dark room	Film imaging		
4	1	• To know the different Factors controlling x-ray beam. • To understand dosimetry and invers square low	Factors controlling x-ray beam		
5	1	• To know the scientific basics of Projection jeometry • To Identify the possible and causes of Projection jeometry effect on (sharpness, distortion, image	Projection geometry		
6	1	• To know the scientific background of the effect of radiation on human cell and organs. • To Identify the difference between direct & indirect effects,	Biological effects of radiation		
7	1	• To know the importance of safety measures for x ray machines. • To understand the safety measures in relation to; · source of exposure · dose limits · exposure time • To recognize the measures	Safety and Protection		

8	1	• To know the different Intraoral projection. • To Identify the difference between films used in different Intraoral projection. • To understand the Periapical Intraoral radiography including the used films, benefits of use • To comprehend the bitwing Intraoral radiography including the used films, benefits of use • To understand the occlusal	Intraoral projection		
9	1	• To know the basic principles of digital radiography in dentistry. • To comprehend the digital radiography strength and limitations. • To recognize the indications of digital radiography • To compare the digital	Digital radiography		
10	1	• To know the methods of Patient's management during radiographic imaging. • To understand the child patient management during radiographic imaging. • To recognize the correct contrast media & localization technique for different	Patient's management		
11	1	• To know the scientific basics of Cephalometric imaging. • To understand the Cephalometric imaging technique. .surgical anatomy of; • To recognize the indications of. Cephalometric imaging • To comprehend the	Cephalometric imaging		

12	1	• To know the scientific basics of Panoramic imaging. • To understand the Panoramic imaging technique. .surgical anatomy of; • To recognize the indications of. Panoramic imaging • To comprehend the	Panoramic radiography		
13	1	• To know the types of Craniofacial imaging. • To understand the indication Craniofacial imaging. • To comprehend the interpretation of. Craniofacial	Craniofacial imaging		
14,15	2	• To know the scientific principles of CBCT imaging. • To understand the components of CBCT. • To recognize the indications and strength of. CBCT • To comprehend the limitations of. CBCT • To recognize CBCT clinical applications in maxillofacial region • To comprehend the	CBCT		
16,17	2	• To know the basic radiographic anatomy of teeth and their supporting dento-alveolar structures. • To understand the radiographic specifics for maxilla and mid facial bones. • To recognize the radiographic specifics for mandible and TMJ. • To Comprehend the radiographic anatomy of the base of skull and air way • To identify the radiographic	Radiographic anatomy		

18	1	• To comprehend uses and different Advanced imaging modalities • To know the advantages and disadvantages of Advanced imaging modalities • To understand the indication and basic interpretation of advanced imaging	Advanced imaging modalities		
19	1	• To know the different modalities of radiographs used in implantology. • To understand the different indications of radiographs	Radiography &Implantology		
20	1	• To Overview the medical infection control in radiography (room/spot). • To know the protective measures for both patient	Infection control		
21		• To Overview the role of radiographs in examination. • To comprehend the guide lines for ordering imaging	Prescribing diagnostic imaging		
22		• To know the Radiographic interpretations of common diseases in dentistry • To comprehend the interpretation of dental caries and the specific radiographs for each part of dental arch. • To understand the Radiographic interpretations of periodontal disease.	Radiographical interpretations of common diseases		
23		• To know the effect and orign of different cysts of the jaw • To comprehend the different types of odontogenic cysts of the jaw. • To overview the different	Cysts of the jaw		

24		• To know the basics of embryology and growth in human. • To understand the basic developmental anomalies in oral and maxillofacial region. • To recognize the possible causes of acquired anomalies in oral and maxillofacial region. • To comprehend the	Dental anomalies		
25		• To know the types of Inflammatory conditions of the jaws • To understand the different Periapical Inflammatory disease and their etiology • To recognize the possible types and causes of osteomyelitis. • To comprehend the possible	Inflammatory conditions of the jaws		
26		• To know the causes of trauma in oral & maxillofacial region. • To recognize the different radiographic modalities in diagnosis of Dento-alveolar	Trauma		
27		• To know the basic anatomy of TMJ and their radiographic presentation • To recognize the types of TMJ abnormalities. • To understand the different radiographic modalities in	TMJ abnormalities(		
28		• To know the radiographic presentation salivary gland disease including; imaging modalities and interpretation	Salivary gland disease		
29		• To know the basics of embryology and growth in human. • To understand the basic developmental anomalies in Craniofacial (Cleft lip and	Craniofacial anomalies		

30		• To know the scientific principles of CT imaging. • To recognize the indications and strength of. CT	Computed tomography		

11.Course Evaluation

First semester 20%
1.5 (attendance, participation & activities) 2.5 (in-lecture written Quiz, assessment & assignments) 4 (laboratory steps evaluation) 5 (1st semester final lab.) 7 (1st semester final written.)
Second semester 20%
1.5 (attendance, participation & activities) 2.5 (in-lecture written Quiz, assessment & assignments) 4 (laboratory steps evaluation) 5 (1st semester final lab.) 7 (1st semester final written.)
Final 60%
20 (Final lab. Exam and/or Oral exam) 40 (Final written Exam)

12.Learning and Teaching Resources

Required textbooks	▪ White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8th edition. 2019, Elsevier.
Main references (sources)	▪ Ghom, Anil Govindrao. Textbook of oral radiology-E-Book. 2016, Elsevier Health Sciences.
Recommended books and references (scientific journals, reports...)	▪ Dental radiography : principles and techniques. Iannucci, Joen M.,Howerton, Laura Jansen,.; EBSC Ohost St. Louis, Missouri : Elsevier/
Electronic References, Websites	▪ https://www.healthline.com/health/dental-x-rays ▪ https://my.clevelandclinic.org/health/diagnostics/11199-dental-x-rays ▪ Perry, Rachel. "Basic dental radiography: equipment and technique." BSAVA Congress