

Dentistry (English)			
Bachelor	TR-NQF-HE: Level 6	QF-EHEA: First Cycle	EQF-LLL: Level 6

Course Introduction and Application Information

Course Code:	DENT303		
Course Name:	Introduction to Oral & Maxillofacial Radiology		
Semester:	Fall		
Course Credits:	ECTS 2		
Language of instruction:	English		
Course Condition:			
Does the Course Require Work Experience?:	No		
Type of course:	Compulsory Courses		
Course Level:	BachelorTR-NQF-HE:6. Master`s DegreeQF-EHEA:First CycleEQF-LLL:6. Master`s Degree		
Mode of Delivery:	Face to face		
Course Coordinator:	Dr. Öğr. Üy. EMİNE NUR KAHRAMAN		
Course Lecturer(s):	Ass.Prof.Emine Nur Kahraman		
Course Assistants:			

Course Objective and Content

Course Objectives:	This course aims to provide students with a comprehensive understanding of the principles, techniques, and applications of radiology as it relates to the oral and maxillofacial region. The primary objectives of this course may include: Understanding Radiological Techniques: To introduce students to the various radiological imaging techniques used in dentistry, with a focus on oral and maxillofacial structures. This may include
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	X-rays, computed tomography (CT), magnetic resonance imaging (MRI), and cone beam computed tomography (CBCT). Radiation Safety and Protection: To educate students about the principles of radiation safety, including proper usage of equipment, minimizing patient exposure, and adhering to regulatory guidelines to ensure the health and safety of patients, practitioners, and staff. Anatomical Interpretation: To enable students to interpret radiographic images and recognize anatomical structures in the oral and maxillofacial region. This includes identifying normal anatomy, anatomical variations, and potential pathologies.
Course Content:	This course provides students with a comprehensive understanding of fundamental principles in radiology. It covers the physics of ionizing radiation, its biological effects, safety and protection measures, as well as keynotes and board questions. The curriculum delves into digital imaging and film imaging, projection geometry, intraoral projections, cephalometric and skull imaging, and panoramic imaging. The course also addresses errors in panoramic radiography positioning and extensively examines the assessment of panoramic radiography by region. By the end of the course, students will have gained proficiency in foundational radiological concepts and techniques, enabling them to adeptly apply these skills in clinical settings.

Learning Outcomes

The students who have succeeded in this course;

- 1) Understand the foundational principles of radiation physics and biologic effects of ionizing radiation, emphasizing safety and protection measures.
- 2) Develop proficiency in digital imaging techniques and film imaging applications.
- 3) Grasp the concepts of projection geometry and master techniques for intraoral projections.
- 4) Gain expertise in cephalometric and skull imaging, along with panoramic imaging and the assessment of panoramic radiography by region.
- 5) Identify and interpret radiographic anatomy accurately.
- 6) Acquire skills in CBCT imaging, encompassing volume acquisition, preparation, and evaluation.
- 7) Interpreting Radiographs Alongside Clinical Findings and Oral Examination
- 8) Learn the principles of radiographic interpretation, enhancing diagnostic capabilities.
- 9) Interpret radiographic images to diagnose dental caries, periodontal diseases, and dental anomalies.
- 10) Analyze and interpret radiographic images depicting inflammatory conditions affecting the jaws.

Course Flow Plan

Week	Subject	Related Preparation
1)	Radiation Physics And Biologic effects of ionizing radiation	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
2)	Radiation Safety and Protection	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.

3)	Digital Imaging and Film Imaging in Dentomaxillofacial Radiology	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
4)	Projection Geometry and Intraoral Projections	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
5)	Cephalometric and Skull Imaging, Panoramic Imaging	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
6)	Panoramic radiography position errors	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
7)	Assessment Of Panoramic Radiography By Region	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
8)	Examination	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
9)	CBCT volume acquisition and preparation	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
10)	Evaluation of CBCT Imaging	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
11)	Principles of Radiographic Interpretation	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
12)	Interperation of Dental Caries and Periodontal Diseases	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and interpretation: second South Asia Edition E-Book. Elsevier India, 2019.
13)	Interpreting Clinical Findings and Patient Complaints Alongside Radiographs	White, S. C., & Pharoah, M. J. (2014). Oral radiology-E-Book: Principles and interpretation. Elsevier Health Sciences.

Sources

Course Notes	MALLYA, Sanjay; LAM, Ernest. White and Pharoah's Oral radiology E-book: principles and
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to further advance dental practices.										
Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10
9) By adopting the principle of lifelong learning throughout the dentistry profession, follows current evidence-based dental knowledge and uses it during his professional practice.										
10) During dental practice, in cases such as abuse and addiction, performs the treatment by exhibiting the behaviors required by social ethics and legal rules, and collects and records the relevant data.										
11) Uses basic and current knowledge in the field of dentistry during professional practice for the benefit of society within the framework of national values and country realities.										
12) In natural disasters and emergency cases, takes the protective measures required by the dentistry profession; performs professional practices that benefit patients and society										
13) Generates ideas regarding health policy in dentistry, prioritizes individual and public health, and carries out preventive and therapeutic medical practices within the framework of scientific, ethical, and quality processes.										
14) Differentiates the signs and symptoms commonly encountered in the dentistry profession, makes a treatment plan and refers when necessary, and manages diseases and clinical situations regarding their urgency and patient priority.	2	2	2	2	2	2	2	2	2	2
15) Can assume the leadership responsibility of the team he/she works for, manage it following scientific criteria, and support the professional development of the team.										

Course - Learning Outcome Relationship

No Effect	1 Lowest	2 Average	3 Highest
Program Outcomes	Level of		

		Contribution
1)	Has basic and up-to-date knowledge in the field of dentistry, follows scientific publications, and applies evidence-based data to his/her professional practice.	2
2)	Knows well and effectively uses devices, tools, and materials specific to diagnosis and treatment in the field of dentistry.	2
3)	Evaluates the knowledge in the field of dentistry critically, integrates it with the knowledge of disciplines in the field of health, uses it by analyzing and synthesizing it.	2
4)	Produces projects related to the field of dentistry, can work with other health disciplines, takes part as a member of the research team and evaluates and reports the results obtained at a scientific level.	
5)	Uses information that will contribute to the dentistry profession during practice, takes responsibility, and produces solutions in unforeseen situations.	3
6)	Shares, compares, and exchanges dental knowledge with professional colleagues in social and scientific environments in written, verbal, and visual forms.	
7)	Within the framework of social, scientific, and ethical values including patient privacy, communicates with patients and their relatives, knows all the characteristics of the patient, and recommends the most appropriate treatment with a patient-centered approach.	1
8)	Follows technological developments, participates in national and international studies, and shares and presents own observations, experiences, and research to further advance dental practices.	
9)	By adopting the principle of lifelong learning throughout the dentistry profession, follows current evidence-based dental knowledge and uses it during his professional practice.	
10)	During dental practice, in cases such as abuse and addiction, performs the treatment by exhibiting the behaviors required by social ethics and legal rules, and collects and records the relevant data.	
11)	Uses basic and current knowledge in the field of dentistry during professional practice for the benefit of society within the framework of national values and country realities.	
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	situations regarding their urgency and patient priority.	
15)	Can assume the leadership responsibility of the team he/she works for, manage it following scientific criteria, and support the professional development of the team.	

Assessment & Grading

Semester Requirements	Number of Activities	Level of Contribution
Quizzes	1	% 10
Homework Assignments	1	% 10
Midterms	1	% 20
Final	1	% 60
total		% 100
PERCENTAGE OF SEMESTER WORK		% 40
PERCENTAGE OF FINAL WORK		% 60
total		% 100

Workload and ECTS Credit Calculation

Activities	Number of Activities	Preparation for the Activity	Spent for the Activity Itself	Completing the Activity Requirements	Workload
Course Hours	13	1	1		26
Midterms	1	4	1		5
Final	1	6	1		7
Total Workload					38