



Dental Radiology

1. IMPRINT	
Academic Year	2024/2025
Department	Faculty of Medicine and Dentistry
Field of study	English Dentistry Division
Main scientific discipline	Medical sciences
Study Profile	General academic
Level of studies	Uniform MSc
Form of studies	Full-time program
Type of module / course	Obligatory
Form of verification of learning outcomes	Completion
Educational Unit / Educational Units	Department of Dental and Maxillofacial Radiology Medical University of Warsaw ul. Binieckiego 6, 02-097 Warszawa; Phone No.(22) 116 64 10 e-mail: zrs@wum.edu.pl
Head of Educational Unit / Heads of Educational Units	Prof. Kazimierz Szopiński MD, PhD, kazimierz.szopinski@wum.edu.pl
Course coordinator	Prof. Kazimierz Szopiński MD, PhD, kazimierz.szopinski@wum.edu.pl
Person responsible for syllabus	Anna Pogorzelska DMD, PhD, anna.pogorzelska@wum.edu.pl
Teachers	Professor Kazimierz Szopiński MD, PhD , kazimierz.szopinski@wum.edu.pl Piotr Regulski DMD, PhD, piotr.regulski@wum.edu.pl Anna Pogorzelska DMD, PhD, anna.pogorzelska@wum.edu.pl Stanisław Jalowski DMD, stanislaw.jalowski@wum.edu.pl Michał Szałwiński, DMD, PhD michal.szalwinski@wum.edu.pl Anna Pantelewicz DMD, PhD anna.pantelewicz@wum.edu.pl Oliwia Kałuża DMD, oliwia.kaluza@wum.edu.pl Agata Wojdalska DMD, agata.wojdalska@wum.edu.pl

2. BASIC INFORMATION			
Year and semester of studies	IV year, VII i VIII semester	Number of ECTS credits	3.5
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)			
Seminar (S)		8	0,32
Classes (C)		42	1,68
e-learning (e-L)		10	0,4
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions		27.5	1,1

3. COURSE OBJECTIVES	
O1	Acquiring the ability to maintain radiological documentation in terms of basic intra- and extraoral x-ray examinations.
O2	Acquiring the ability to diagnose and differentiate pathologies affecting the head and neck.
O3	Acquiring knowledge in terms of diagnostics using a panoramic x-ray machine.

4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING	
Code and number of the effect of learning in accordance with standards of learning	Effects in the field of: <i>(in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>
Knowledge – Graduate* knows and understands:	
A.K1.	structures of the human body: cells, tissues, organs and systems, with particular emphasis on the stomatognathic system

B.K9.	methods of imaging tissues and organs and principles of operation of diagnostic devices used for this purpose
E.K20.	cases in which the patient should be referred to hospital
F.K18.	principles of radiological diagnosis
G.K34.	rules for maintaining, storing and sharing medical records and personal data protection

Skills– Graduate* is able to:

A.S1.	interpret anatomical relationships imaging by basic radiological methods of diagnostic (overview and scans after contrast agent administration)
E.S1.	perform differential diagnosis of the most common diseases
E.S3.	plan diagnostic and therapeutic procedures for the most common diseases
E.S5.	identify normal and pathological structures and organs in additional imaging tests (X-ray, ultrasound, computed tomography - CT)
F.S11.	maintain current patient records, issue referrals for tests or specialist dental and general medical treatment
F.S17.	diagnose and provide basic treatment for periodontal disease
F.S18.	diagnose, differentiate and classify malocclusions
F.S23.	report intraoral and panoramic radiographs
G.S26.	keep medical records correctly

* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

5. ADDITIONAL EFFECTS OF LEARNING

Number of effect of learning	Effects in the fields of:
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Knowledge – Graduate knows and understands:

K1	
K2	

Skills– Graduate is able to:

S1	
S2	

Social Competencies – Graduate is ready for:

SC1	
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SC2	
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6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminars	<p>S1 – Anatomy on panoramic x-rays. Radiological diagnosis - caries, periodontal and periapical inflammation - differential diagnosis.</p> <p>S2 – Radiological symptomatology of periapical inflammation. PAI index. Differential diagnosis with odontogenic periapical inflammatory cysts.</p> <p>S3 – Radiological diagnosis of dental trauma, alveolar process and craniofacial bony structures. X-ray signs of trauma.</p>	<p>F.K18., E.S1, E.S3.,</p> <p>F.S18.,F.S23.</p> <p>E.K20., F.K18., E.S1., E.S3., F.S11</p> <p>A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.</p>
Classes	<p>C1 – Performing panoramic radiograph and radiographic anatomy on panoramic images in virtual reality.</p> <p>C2 – Repetition of dental imaging on a phantom.</p> <p>C3 – Technique of performing a panoramic radiograph. Discussion of the principle of operation of the panoramic machine, the concept of the layer, discussion of the most common technical errors and possibilities for their correction.</p> <p>C4 – Patient examination: technique of performing a panoramic radiograph. Discussion of practical aspects of panoramic radiography, elimination of errors, exercises in the X-ray laboratory.</p> <p>C5 – Anatomy of the facial part of the skull on a panoramic radiograph, shadow analysis, anatomical variations within the teeth and structures of the facial part of the skull (densifications, reduced density – rare trabeculation in cancellous bone).</p> <p>C6 – Dental abnormalities and development – diagnostics on panoramic radiographs.</p> <p>C7 – Radiological signs of pathology in the context of lesions in mineralized tooth tissues of carious and non-carious origin in primary and permanent teeth, evaluation of marginal periodontium on panoramic images.</p> <p>C8 – Radiological signs of pathology in the periapical periodontium – differentiation.</p> <p>C9 – Radiological diagnostics of injuries in the teeth and the alveolar process of the maxilla and mandible.</p> <p>C10 – Radiological analysis of cephalometric images. Malocclusions.</p> <p>C11 – Radiological diagnostics and differentiation of injuries in the teeth and the alveolar process of the maxilla and mandible, radiological signs of pathology in the context of lesions in mineralized tooth tissues, marginal periodontium, periapical periodontium, and injuries and focal changes in intraoral and extraoral examinations.</p> <p>C12 – Radiological diagnostics – discussion of cases on panoramic and dental images: radiological signs of pathology in the context of lesions in mineralized tooth tissues, marginal periodontium, periapical periodontium, and injuries.</p>	<p>F.K18., A.S1., E.S1., E.S5., F.S23.</p> <p>F.K18., A.S1., E.S1., E.S5.,</p> <p>F.K18., G.K34., E.S1., C.S11., F.S23.</p> <p>F.S23.</p> <p>F.K18., E.S1., F.S23.</p> <p>F.K18., E.S1., F.S23.</p> <p>F.K18., G.K34., E.S1., C.S11., F.S23.</p> <p>A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.</p> <p>F.K18., G.S26., G.K34., G.S26., F.S23.</p>

7. LITERATURE	
Obligatory	

1. Whaites E, Drage N. Essentials of Dental Radiography and Radiology. Churchill Livingstone Elsevier 2020
2. White SC, Pharoah MJ. Oral Radiology — principles and interpretation. Elsevier Mosby 2018
3. Langlais RP, Miller C. Exercises in Oral Radiology and Interpretation. Saunders 2016

Supplementary

1. Articles: Journal of Oral Medicine and Oral Surgery, Journal of Stomatology, Contemporary Clinical Dentistry, Dentomaxillofacial Radiology

8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
A.W1. B.W9. E.W20. F.W18. G.W34. A.U1. E.U1. E.U3. E.U5. F.U11. F.U17. F.U18. F.U23. G.U26.	<p>The entrance colloquium: on the first class in the Radiology Department. Test consist of 30 questions, single choice – one correct answer, 5 distractors. (30 minutes)</p> <p>The final colloquium (60 minutes in total) consists of three parts:</p> <ol style="list-style-type: none"> 1. Multiple choice test (all combinations possible - from all incorrect to all correct), 30 questions, 8 distractors. 2. Multiple choice test 10 questions 3. Anatomy on a panoramic and intraoral radiograph - test or short answer 10 questions – terminology from: "Exercises in Oral Radiology and Interpretation" Robert P. Langlais, Craig Miller and photos and diagrams from presentations available on the e-learning platform. <p>Practical part: pass a practical taking of panoramic and intraoral x-rays in radiology room - correct positioning of the patient for a panoramic radiograph and intraoral X-rays</p> <p>Assignments and descriptive questions (enter correct answer) on the e-learning platform.</p>	<p>Entrance colloquium: pass above 61%</p> <p>Final colloquium:</p> <ul style="list-style-type: none"> - Anatomy 100% other questions - pass above 61% of points; <p>failing anatomy results in failing the entire test;</p>

9. ADDITIONAL INFORMATION

1. Three delays are treated as 1 absence.
2. During classes, it is strictly forbidden to use phones and take photos of the discussed examinations.
3. 90% attendance is required, making up the classes after agreeing on the form with the lecturer - paper, additional duty during the description of the research, duty in the laboratory outside of classes.
4. Classes are held in the exercise rooms and technical laboratory of the Department of Dental and Maxillofacial Radiology at the University Dentistry Center of the Medical University of Warsaw.
5. The first and second dates of the colloquium are in the form of a test. In case of failure, the colloquium may be held only with the consent of the Head of the Department.
6. A protective apron is required for practical exercises "patient examination".

The Paralaksa Student Scientific Club operates at the Department of Dental and Maxillofacial Radiology, supervised by Anna Pogorzelska DMD, Ph.D., anna.pogorzelska@wum.edu.pl. The work of the scientific group allows you to expand your knowledge of dental radiology and involves carrying out scientific and research projects independently or as a team. Students preparing the results of their work have the opportunity to present them at scientific conferences and, in cooperation with the Teaching Staff, prepare scientific publications in peer-reviewed journals.

The subject is related to scientific research. A detailed description of the research carried out can be found on the Department's website.

Person responsible for teaching: Anna Pogorzelska, DMD; anna.pogorzelska@wum.edu.pl

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ATTENTION

The final 10 minutes of the last class of the block/semester/year should be allotted for students to fill out the Survey of Evaluation of Classes and Academic Teachers