



Dental Radiology

1. IMPRINT

Academic Year	2025/2026
Department	Faculty of Dental Medicine
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 Pantelewicz DMD, PhD, anna.pantelewicz@wum.edu.pl
Teachers	Prof. dr hab. n. med. Kazimierz Szopiński, kazimierz.szopinski@wum.edu.pl Dr hab. n. med. i n. o zdr., inż. Piotr Regulski, piotr.regulski@wum.edu.pl Dr n. med. i n. o zdr. Anna Pogorzelska, anna.pogorzelska@wum.edu.pl Dr n. med. i n. o zdr. Anna Pantelewicz, anna.pantelewicz@wum.edu.pl Dr n. med. Michał Szałwiński, michal.szalwinski@wum.edu.pl Lek. stom. Stanisław Jąkowski, stanislaw.jalowski@wum.edu.pl Lek. dent. Oliwia Kałuża, oliwia.kaluza@wum.edu.pl Lek. med. Patrycja Bielska, patrycja.bielska@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)				
Practical classes (PC)				
Work placement (WP)				
Unassisted student's work				
Preparation for classes and completions		37.5	1.5	

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 (in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	Effects in the field of:
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 (non-compulsory)

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	
SC2	

6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminars	S1 – Anatomy on panoramic x-rays. Radiological diagnosis - caries, periodontal and periapical inflammation - differential diagnosis. S2 – Radiological symptomatology of periapical inflammation. PAI index. Differential diagnosis with odontogenic periapical inflammatory cysts. S3 – Radiological diagnosis of dental trauma, alveolar process and craniofacial bony structures. X-ray signs of trauma.	F.K18., G.K34., E.S1, E.S3., F.S18., F.S23. E.K20., F.K18., E.S1., E.S3., F.S11 A.K1., F.K18. A.S1., E.K20., E.S1., E.S3., E.S5., F.S17., G.S26.
Classes	C1 – Performing panoramic radiograph and radiographic anatomy on panoramic images in virtual reality. C2 – Repetition of dental imaging on a phantom. 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. 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. 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). C6 – Dental abnormalities and development – diagnostics on panoramic radiographs and cephalometric images. 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. C8 – Radiological signs of pathology in the periapical periodontium – differentiation. C9 – Radiological diagnostics of injuries in the teeth and the alveolar process of the maxilla and mandible. C10 – Diagnosis of focal lesions in panoramic and intraoral images – differentiation. 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. 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.	F.K18., A.S1., E.S1., E.S5., G.S26. F.K18., A.S1., E.S1., E.S5., G.S26. F.K18., G.K34., A.S1., E.S1., E.S5., F.S18., F.S23. F.S23. F.K18., E.S1., F.S23. F.K18., E.S1., F.S23. G.K34., E.S1., C.S11., F.S23. B.K9., F.K18., G.K34., A.S1., E.S1., E.S3., E.S5., F.S11., F.S17, F.S18., G.S26., F.S23. B.K9., F.K18., G.K34., A.S1., E.S1., E.S3., E.S5., F.S11., F.S17, F.S18., G.S26. F.K18., G.K34., E.S1., C.S11., F.S18., F.S23. F.K18., A.S1., E.S1., E.S5., F.S23. B.K9., F.K18., G.K34., A.S1., E.S1., E.S3., E.S5., F.S11., F.S17, F.S18., G.S26.

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.	Seminar completion requirements – attendance at all seminars is mandatory. Material covered during seminars is required knowledge for the final examination In the case of absence from classes, a justification must be submitted no later than at the next class following the period of absence. The entry test will takes place during the first class and involves identifying anatomical structures on panoramic radiographs. The quiz consists of 50 single-choice questions based on images and diagrams from the presentations available on the e-learning platform Credit for the class is based on attendance and achieving a passing grade in the entrance tests. The entrance tests for the previous course topic consist of 10 single-choice questions, 4 answers (10 minutes to complete). There will be 8 entrance tests, each worth 10 points. A total of 80 points can be earned. Failure to obtain credit for the classes results in the inability to take the final credit test. The final colloquium (60 minutes in total) consists of three parts: 1. Multiple choice test (all combinations possible - from all incorrect to all correct), 30 questions, 8 distractors. 2. Multiple choice test 10 questions. One answer scheme for each question: a) all; b) II, c) III, d) I and II, e) I and III 3. 10 test questions on anatomy in intraoral and panoramic X-rays (10 points) - X-ray's, diagrams and presentations available on the e-learning platform. Practical part: pass a practical taking of panoramic and intraoral x-rays in the radiology laboratory - correct positioning of the patient for a panoramic radiograph and intraoral X-rays	Active participation in seminars Entrance exam – passing grade 61%. Active participation in classes is required, as is obtaining a total of 48 points from all tests (the pass mark is 61%). If a student is unprepared for class, the supervising assistant may. Final exam: – anatomy 90%: failure to pass anatomy results in failure of the entire exam – other questions – passing threshold 61% of points.

9. ADDITIONAL INFORMATION

1. Three late arrivals to class are counted as one absence.
2. During classes, it is strictly forbidden to use phones and take photos of the discussed examinations.

3. Students are allowed one excused absence. All remaining absences must be made up. Makeup work must be arranged with the teacher and may include: attending classes with another group, preparing a presentation, additional duty during imaging report sessions, or lab duty outside regular class hours.
4. Classes take place in the training rooms and the 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 term of the colloquium is performed in a form of test. In case of failing the test, the student is allowed to retake the test once with the consent of the Head of Department.
6. Medical scrubs are required for clinical classes in the radiology laboratory.

The ALARA Student Scientific Club operates at the Department of Dental and Maxillofacial Radiology, supervised by prof. Ph.D. med. Kazimierz Szopiński, kazimierz.szopinski@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