



## Dental Radiology

<b>1. IMPRINT</b>	
<b>Academic Year</b>	2024/2025
<b>Department</b>	Faculty of Medicine and Dentistry
<b>Field of study</b>	English Dentistry Division
<b>Main scientific discipline</b>	Medical sciences
<b>Study Profile</b>	General academic
<b>Level of studies</b>	Uniform MSc
<b>Form of studies</b>	Full time program
<b>Type of module / course</b>	Obligatory
<b>Form of verification of learning outcomes</b>	Completion
<b>Educational Unit / Educational Units</b>	Department of Dental and Maxillofacial Radiology Medical University of Warsaw Binieckiego 6 str. , 02-097 Warszawa; phone nr. 22 116 64 10 e-mail: zrs@wum.edu.pl
<b>Head of Educational Unit / Heads of Educational Units</b>	Profesor Kazimierz Szopiński MD, PhD
<b>Course coordinator</b>	Profesor Kazimierz Szopiński MD, PhD
<b>Person responsible for syllabus</b>	Anna Pogorzelska DMD, PhD, anna.pogorzelska@wum.edu.pl
<b>Teachers</b>	Profesor 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

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<b>2. BASIC INFORMATION</b>			
<b>Year and semester of studies</b>	3 rd year, 6 th semester	<b>Number of ECTS credits</b>	2.00
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)			
Seminar (S)		8	0,26
Classes (C)		27	0,9
e-learning (e-L)		10	0,34
Practical classes (PC)			
Work placement (WP)			
<b>Unassisted student's work</b>			
Preparation for classes and completions		15	0,5

<b>3. COURSE OBJECTIVES</b>	
O1	To acquire the ability to write radiological reports and documentation of basic intra- and extraoral examinations
O2	To acquire practical skills in differential diagnosis of the head and neck pathologies.
O3	To acquire knowledge in diagnosis using intraoral 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:** *(in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)*

**Knowledge – Graduate\* knows and understands:**

A.K1.	human body structures: cells, tissues, organs and systems with particular emphasis on the dental system
B.K9.	Methods of tissue and organ imaging and the principles of operation of diagnostic equipment for this purpose
E.K20.	Cases in which the patient should be referred to the hospital
F.K18.	Principles of radiological diagnostics
G.K34.	The principles of keeping, storing and providing access to medical records and of personal data protection

**Skills– Graduate\* is able to:**

A.S1.	interpret anatomical relations illustrated by basic diagnostic methods in radiology (plain scans and scans after contrast agent administration)
E.S1.	perform differential diagnosis of the most common diseases
E.S3.	plan the diagnostic and therapeutic treatment of the most common diseases
E.S5.	identify normal and pathological structures and organs in additional imaging (X-ray, ultrasound, computed tomography – CT)
F.S11.	keep current patient records, make referrals for dental and general medical examination or treatment
F.S17.	diagnose and provide basic treatment of periodontal diseases
F.S18.	diagnose, differentiate and classify malocclusion
F.S23.	describe dental and panoramic photographs
G.S26.	keep medical records

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

<b>5. ADDITIONAL EFFECTS OF LEARNING</b> ( <i>non-compulsory</i> )	
<b>Number of effect of learning</b>	<b>Effects in the fields of:</b>
<b>Knowledge – Graduate knows and understands:</b>	
K1	-
<b>Skills– Graduate is able to:</b>	
S1	-
<b>Social Competencies – Graduate is ready for:</b>	
SC1	-

<b>6. CLASSES</b>		
<b>Form of class</b>	<b>Class contents</b>	<b>Effects of Learning</b>
Seminars	S1 – Principles of referring for x-ray imaging, principles of keeping, storing and and providing access to medical records; intraoral X-rays: types, techniques of taking, indications. Atomic law (Act and Regulations of the Minister of Health). Discussion of intraoral X-ray imaging.	B.K9., E.K20., F.K18., G.K34
	S2 – Radiologic symptomatology and differential diagnosis of caries. Radiologic symptomatology of the periodontal disease Discussion of normal imaging and radiographic symptoms of pathology in marginal periodontitis and dental hard tissues.	A.K1., A.S1., E.S1., E.S3., E.S5., F.S17., F.S23., G.S26.
	S3 – Radiological diagnosis in endodontic treatment. Parallax (Clark's rule). Radiological symptoms of periapical periodontitis. Discussion of normal imaging and radiographic symptoms of periapical periodontal pathology. Projections to facilitate diagnosis during endodontic treatment.	A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.
	S4 – Symptomatology of disease processes taking place in the dental alveolar processes. Discussion of the normal image and radiological signs of pathology in the area of the alveolar processes.	A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.
	C1 – Technique of performing intraoral X-ray images – examination on a phantom. Discussion of theoretical and technical aspects of intraoral imaging.	A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.
	C2 – Performing intraoral images and radiographic anatomy of intraoral images in virtual reality.	A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.
	C3 – Identification and radiographic anatomy of intraoral images. Correct radiographic anatomy in intraoral imaging.	A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.
	C4 – Radiological diagnostics of lesions in mineralized tooth tissues. Radiological signs of pathology within the hard tissues of the tooth.	A.K1.,A.S1., E.S1., E.S3., E.S5.,

	<p>C5 – Differential diagnosis of chronic inflammation of periapical periodontal tissues. Radiological signs of pathology within the periapical periodontium. PAI index. Radiological diagnostics in endodontic treatment.</p> <p>C6 – Diagnostics of disease processes occurring in the alveolar process of the maxilla and the alveolar part of the mandible. Focal changes on intraoral images.</p> <p>C7 – Symptomatology of chronic inflammation of marginal periodontal tissues. Radiological signs of pathology within the marginal periodontium.</p> <p>C8 – Patient examination: technique of performing intraoral X-ray images. Discussion of practical aspects of intraoral imaging and performing intraoral images.</p>	<p>F.S11., F.S17., F.S18.,F.S23., G.S26.</p> <p>A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.</p> <p>A.S1., E.S3., E.S5., G.S26.</p> <p>A.S1., E.S3., G.S26.</p> <p>A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.</p>
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<b>7. LITERATURE</b>
<b>Obligatory</b>
<ol style="list-style-type: none"> <li>1. Whaites E., Drage N. Essentials of Dental Radiography and Radiology. Churchill Livingstone Elsevier 2013</li> <li>2. White SC., Pharoah MJ. Oral Radiology — principles and interpretation. Elsevier Mosby 2013</li> <li>3. Langlais RP., Miller C. Exercises in Oral Radiology and Interpretation Elsevier 2017</li> </ol>
<b>Supplementary</b>
<ol style="list-style-type: none"> <li>1. Coulthard P, Horner K, Sloan P, Theaker E. Master dentistry, volume one: Oral and maxillofacial surgery, radiology, pathology and oral medicine. Churchill Livingstone Elsevier 2008</li> </ol>

<b>8. VERIFYING THE EFFECT OF LEARNING</b>		
Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
<p>A.K1. B.K9. E.K20. F.K18. G.K34. A.S1. E.S1. E.S3. E.S5. F.S11. F.S17. F.S18. G.S26</p>	<p>The entrance colloquium – identification of the anatomical structures on panoramic X-rays. The colloquium consists of 50 questions - test or short answer. Terminology and scope according Exercises in Oral Radiology and Interpretation Elsevier 2017 and seminars and presentations on the e-learning platform.</p> <p>The colloquium (for a total of 60 minutes) consists of three parts:</p> <ol style="list-style-type: none"> <li>1. Multiple choice test, 30 questions, (30 points) Up to 10 questions, one answer pattern, 5 distractors, 1 possible answer:</li> <li>a) all;</li> <li>b) II</li> <li>c) III</li> <li>d) I and II</li> <li>e) I and III</li> <li>2. 20 multiple choice test questions; 8 distractors, up to 8 correct answers (at least one correct) (20 points)</li> <li>3. 10 test questions or short answer on anatomy in intraoral X-rays (10 points) - terminology consistent with X-rays and diagrams from Exercises in</li> </ol>	<p>Entrance colloquium: – the pass mark is 50%.</p> <p>Final colloquium:</p> <ol style="list-style-type: none"> <li>1. Student will pass the colloquium - the pass mark is over 60% of the points, anatomy part -100%; failing anatomy part is equal with failing of all colloquium.</li> <li>2. Obtained a credit for all classes (if the student is unprepared for the classes, the assistant may fail the classes! - should be passed with another group or in writing (paper, test</li> </ol>

	<p>Oral Radiology and Interpretation Elsevier 2017 and seminars and presentations on the e-learning platform.</p> <p>Passing classes in the Technical Radiology Lab on the last day of classes and completing the Card Credits during classes or during additional classes duty hours; correct patient positioning for intraoral X-rays, error analysis. Students are obliged to pass all e-learning radiological courses as an unassisted student's work.</p> <p>Assignments and descriptive questions (enter correct answer) on the e-learning platform.</p>	<p>/ written test on a given issue - the assistant decides).</p> <p>3. Min. 90% of attendance (3 delays are treated as one absence) - lectures, seminars, exercises.</p> <p>4. Students are obliged to pass all e-learning radiological courses as an unassisted student's work.</p>
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## 9. ADDITIONAL INFORMATION

1. Three tardies are treated as 1 absence.
  2. During classes, it is strictly forbidden to use phones and take photos of the discussed tests.
  3. 90% attendance is required, making up classes after agreeing on the form with the teacher - classes with another group, paper, additional on duty during research description, on duty in the laboratory outside of classes.
  4. Classes take place in exercise rooms and the Technical Radiology 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. 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](mailto: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](mailto: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