



Dental Radiology

1. IMPRINT	
Academic Year	2023/2024
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	Exam
Educational Unit / Educational Units	Department of Dental and Maxillofacial Radiology Medical University of Warsaw Binieckiego 6 street, 02-097 Warszawa; phone numer 22 116 64 10 e-mail: zrs@wum.edu.pl
Head of Educational Unit / Heads of Educational Units	Professor Kazimierz Szopiński MD, PhD
Course coordinator	Professor Kazimierz Szopiński MD, PhD
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 Aniela Akonom, DMD aniela.akonon@wum.edu.pl

2. BASIC INFORMATION			
Year and semester of studies	5 rd year, 9 th semester	Number of ECTS credits	1.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)			
Seminar (S)		5	0,2
Classes (C)		10	0,4
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions		10	0,4

3. COURSE OBJECTIVES	
O1	To acquire the ability to write radiological reports and documentation of basic intra- and extraoral examinations
O2	To acquire skills in radiological and differential diagnosis head and neck pathologies.
O3	To acquire knowledge in diagnosis using intraoral CBCT 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:
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 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 diagnosis
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.	know the procedures in case of general and local complications during dental procedures and after dental procedures
F.S17.	diagnose and provide basic treatment of periodontal diseases
F.S18.	describe pathological changes of cells, tissues and organs according to basic mechanisms
F.S23.	describe dental and panoramic radiographs
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.

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

6. CLASSES		
Form of class	Class contents	Effects of Learning

Seminars	S1 – Anatomy in CBCT examinations of the maxilla and mandible. Radiological diagnostics - defects of hard tooth tissues - differentiation; assessment of marginal and periapical periodontium - differentiation S2 – Radiological diagnosis of focal lesions and injuries to teeth, alveolar process and bony structures of the facial skull. Radiologic signs of injuries.	F.K18., E.S1, E.S3., F.S18.,F.S23. A.S1., A.K1., E.K20., E.S1., E.S3., E.S5., E.K20., F.S11., F.S17.,F.K18., G.S26
Classes	C1 – Technique of taking CBCT, cephalometric X-ray, panoramic X-ray and intraoral X-ray. Discussion of the principle of operation of CBCT, discussion of the most common technical errors and the possibilities of their correction, analysis of artifacts; Patient examination: technique of CBCT, cephalometric X-ray, panoramic X-ray and intraoral X-ray. Discussion of the practical aspects of CBCT, cephalometric X-ray, panoramic X-ray and intraoral X-rays, elimination of errors - exercises in the X-ray Laboratory. C2 – Anatomy of the facial part of the skull on CBCT, analysis of shadows, densities, reduced density - rare trabeculation in the cancellous bone, dental abnormalities. C3 –Radiological diagnosis and differentiation of injuries in the area of teeth and the alveolar process of the maxilla and mandible, radiological symptoms of pathology in the field of defects in the mineralized tissues of the tooth, marginal periodontium, periapical periodontium and injuries and focal lesions in intra- and extraoral examinations - summary of the knowledge acquired from 3th, 4th and 5th year.	F.K18., A.S1., E.S1., E.S5., F.S23. F.K18., G.K34., E.S1., C.S11., F.S23. A.S1.,B.K9, E.S1., E.S3., E.S5. F.S11., F.S17., F.K18., G.S26., G.K34., G.S26.

7. LITERATURE

Obligatory

- Whaites E., Drage N. Essentials of Dental Radiography and Radiology. Churchill Livingstone Elsevier 2013
- White SC., Pharoah MJ. Oral Radiology — principles and interpretation. Elsevier Mosby 2013
- Langlais RP., Miller C. Exercises in Oral Radiology and Interpretation Elsevier 2017

Supplementary

- 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

8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
A.K1.,B.K9. E.K20.,F.K18. G.K34.,A.S1. E.S1.,E.S3. E.S5.,F.S11. F.S17.,F.S18. F.S23.,G.S26.	The entrance colloquium (25 min for all parts, max.25 points) consists of two parts: 1. single choice test -15 questions, 2. 10 short answer or test questions - anatomy on panoramic radiograph or intraoral X-ray (10 points) - terminology according to "Exercises in Oral Radiology and Interpretation" Robert P. Langlais, Craig Miller, photos and schemes from e-learning presentations	Entrance colloquium - anatomy part 100%; other questions - pass threshold above 60% of points; failing anatomy results in failing the entire test;
	Diploma exam The exam consists of two parts: a test and a description of the X-rays	2.0 (failed) <60% 3.0 (sat.) >= 61% &<68% 3.5 (r. good) >= 68% & <75%

	<p>The test part consists of two parts; a student can receive a maximum of 50 points for the test part and 50 points for the descriptive part (10 points for a radiograph).</p> <p>Multiple choice test 40 questions. One answer pattern for each question (in different order): a) all; b) II c) III d) I and II e) I and III</p> <p>- Anatomy on a panoramic radiograph, dental X-ray and CBCT test or short answer 10 questions - terminology and scope consistent with by Langlais RP., Miller C. Exercises in Oral Radiology and Interpretation Elsevier 2017, X-rays and diagrams from presentations available on the e-learning platform 2. Description: three intraoral photos, two panoramic radiographs. For each correctly described radiograph, the student can receive 10 points.</p>	<p>4.0 (good) >= 75% & <82% 4.5 (m.t. good) >= 82% & <90% 5.0 (v. good) >= 90%</p>
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9. ADDITIONAL INFORMATION

- 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.
- Passing the exam: anatomy 90%, other test questions - passing threshold above 60% of points; failing anatomy results in failing the entire exam; passing the descriptive part - making a cardinal error: failure to enter/incorrect naming of the marked anatomical structure, confusion of sides, maxilla and mandible, tooth number, failure to notice a residual root, overdiagnosis /failure to notice a focal lesion or bone injury results in failing the entire exam. If the Student obtains at least 90% of points from all tests in the 1st term on the 3rd and 4th year, the student can take the exam in the "0" term. The "0" appointment takes place at the Head of Department office.
- Terms I and II take place in the winter session, examination before the board after obtaining the consent of the Dean of the Faculty.
- The final grade for the course is based on the grades obtained during the course (10% grade from the 3rd, 4th and 5th year tests, 50% practical exam, 40% test exam).
- Coming late three times to classes are treated as 1 absence.
- During classes, it is strictly forbidden to use phones and take photos of the discussed radiographs.
- 90% attendance is required, making up classes after agreeing on the form with the teacher - classes with another group, a paper, additional duty during the description of research, duty in the laboratory during times outside classes.
- 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.
- A protective apron is required for practical exercises "patient examination".
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 radiology dentistry and involves carrying out scientific and research projects independently or in teams. Students preparing the results of their work have the opportunity to present them at scientific conferences and in cooperation with the Teaching Staff preparation of 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, MD; 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