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	Exam
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	Profesor Kazimierz Szopiński MD, PhD
Course coordinator	Profesor Kazimierz Szopiński MD, PhD
Person responsible for syllabus	Anna Pogorzelska DMD, PhD, anna.pogorzelska@wum.edu.pl
Teachers	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 Oliwia Kałuża DMD, oliwia.kaluza@wum.edu.pl Agata Wojdalska DMD agata.wojdalska@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 intra- and extraoral radiological equipment.

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.	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 – differentiation of hard tissue lesions of the tooth; evaluation of marginal and periapical periodontium – differentiation. S2 – Radiological diagnostics of focal lesions. Tooth trauma and injuries of the alveolar process, and bony structures of the facial part of the skull. Radiographic signs of injuries.	F.K18., E.S1, E.S3., F.S18.,F.S23. A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.
Classes	C1 – Technique of performing CBCT, cephalometric images, panoramic images, and intraoral images. Discussion of the principle of operation of CBCT, discussion of the most common technical errors and possibilities for their correction, artifact analysis. Patient examination: technique of performing CBCT, cephalometric images, panoramic images, and intraoral images. Discussion of practical aspects of CBCT, cephalometric images, panoramic images, and intraoral images, error elimination – exercises in the X-ray laboratory. C2 – Anatomy of the facial part of the skull on CBCT, shadow analysis, densifications, reduced density – rare trabeculation in cancellous bone, dental abnormalities. Classes in virtual reality. C3 – Trial exam and summary of knowledge acquired in the third, fourth, and fifth year.	F.K18., A.S1., E.S1., E.S5., F.S23. F.W18., G.W34., E.S1., F.S11., F.U23. A.K1.,A.S1., E.S1., E.S3., E.S5., F.S11., F.S17., F.S18.,F.S23., G.S26.

7. LITERATURE

Obligatory

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

Supplementary

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

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%; **failing anatomy results in failing the entire test;** - other questions - pass threshold above 61% of points;
	Diploma exam **The exam consists of three parts: a test, anatomy and a description of the X-rays:** 1. Multiple choice test 40 questions. One answer pattern for each question: a) all; b) II c) III; d) I and II; e) I and III.	Diploma exam 2.0 (failed) <60% 3.0 (sat.) >= 61% &<68% 3.5 (r. good) >= 68% & <75% 4.0 (good) >= 75% & <82% 4.5 (m.t. good) >= 82% & <90%

	For the test section, a student can receive a maximum of 40 points. 2. 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 (10 points) 3. Report: three intraoral photos, two panoramic radiographs. For each correctly described radiograph, the student can receive 10 points. For the descriptive section, 50 points (10 points per image). To pass the exam, it is required to achieve a passing score in each part of the exam in the following proportions: 1. Anatomy 100% 2. Test section ≥61% 3. Descriptive section >60%	5.0 (v. good) >= 90%

9. ADDITIONAL INFORMATION

1. 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.
2. 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.
3. Terms I and II take place in the winter session, examination before the board after obtaining the consent of the Dean of the Faculty.
4. 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).
5. Coming late three times to classes are treated as 1 absence.
6. During classes, it is strictly forbidden to use phones and take photos of the discussed radiographs.
7. 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.
8. 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.
9. 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 .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

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