



VR simulation of clinical conditions

1. IMPRINT	
Academic Year	2024/2025
Department	Faculty of Medicine and Dentistry
Field of study	Medicine and Dentistry
Main scientific discipline	medical science
Study Profile	general academic
Level of studies	uniform MSc
Form of studies	extramural study (paid)
Type of module / course	non-compulsory
Form of verification of learning outcomes	completion
Educational Unit / Educational Units	Department of Dental Propaedeutics and Prophylaxis, 59 Nowogrodzka str., 02-006, Warsaw, phone: 22 625 66 02, e-mail: zpips@wum.edu.pl
Head of Educational Unit / Heads of Educational Units	Leopold Wagner DDS, PhD
Course coordinator	Małgorzata Ponto-Wolska DDS, PhD malgorzata.ponto-wolska@wum.edu.pl
Person responsible for syllabus	Małgorzata Ponto-Wolska DDS, PhD malgorzata.ponto-wolska@wum.edu.pl
Teachers	Małgorzata Ponto-Wolska DDS, PhD malgorzata.ponto-wolska@wum.edu.pl Łukasz Zadrożny DDS PhD, lukasz.zadrozny@wum.edu.pl

2. BASIC INFORMATION			
Year and semester of studies	II year, III semester	Number of ECTS credits	1.00
FORMS OF CLASSES			

Contacting hours with academic teacher	Number of hours	ECTS credits calculation
Lecture (L)		
Seminar (S)	5 (5 e-learning forms)	0,17
Classes (C)		
e-learning (e-L)		
Practical classes (PC)	10	0,33
Work placement (WP)		
Unassisted student's work		
Preparation for classes and completions	15	0,5

3. COURSE OBJECTIVES

O1	Obtaining the ability to diagnose carious lesions in various clinical situations.
O2	Obtaining the ability to plan and perform basic clinical procedures in the reconstruction of mineralized tissues.
O3	Obtaining the ability to preparation mineralized tissues and open tooth chambers

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:

B.W13.	dental office equipment and instruments used in dental procedures
C.W28.	basic clinical procedures for the reconstruction of hard dental tissues and endodontic treatment, as well as methods and technical and laboratory procedures for dental prostheses
F.W4.	symptoms, course and management of specific diseases of the oral cavity, head and neck, taking into account age groups

Skills– Graduate* is able to:

C.U9.	carry out endodontic treatment and reconstruct missing mineralised tissues in the phantom tooth
C.U11.	select restorative, prosthetic and bonding biomaterials based on material properties and clinical conditions

5. ADDITIONAL EFFECTS OF LEARNING *(non-compulsory)*

Number of effect of learning	Effects in the fields of:
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
S1 – Seminar 1 (e-learning form)	Topic: Introduction to simulation classes. Low and high-fidelity simulators, hybrid devices, applications (Android, iOs), and VR simulators. Directions of simulation development in dentistry.	B.W13.
S2 – Seminar 2-5 (e-learning form)	Topic: VR simulators. Principles of operation and educational possibilities of the Simodont VR simulator. Software assessment of the effectiveness of tasks performed in real-time, data archiving, and automatic determination of changes in the level of skills.	C.W28., F.W4.
PC1 – Practical Class 1-5	Topic: Training tasks. Preparation of carious lesions on 10 training models and 3 levels of difficulty in VR simulation conditions.	C.U9.
PC2 – Practical Class 6-10	Topic: Tasks on clinical cases. Preparations of class I, II and V cavities under VR simulation conditions and teeth chamber opening on 5 training models.	C.U6., C.U11,

7. LITERATURE

Obligatory

1. Essentials of Operative dentistry. Sherwood IA. Jaypee Brothers Medical Publishers. 2010
2. Clinical endodontics. A textbook 3rd Edition. Tronstad L. Georg Thieme Verlag. 2009

Supplementary

8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
B.W13. C.W28., F.W4. C.U9., C.U11,	evaluation of the performance of a given procedure in real-time accordance with the Simodont® Student app.	- tissue removal percentage (60%, 80% and 90%) - comparison with the planned preparation area - comparison with the correct preparation of class I and II cavities and under the protective crown.

9. ADDITIONAL INFORMATION

Didactic tutor of the faculty Małgorzata Ponto-Wolska PhD DDS, malgorzata.ponto-wolska@wum.edu.pl.

Completion of the faculty: credit without a grade.

Assessment criteria: passing each of the 3 assessed parameters for each task based on the Simodont® Student application.

In a justified situation, the student may be late up to 15 minutes.

A student may bring only things permitted by the teacher to the simulation room. Students in the classroom must wear a medical (surgical) apron with a stand-up collar, knee-length 100 cm, tied at the back with strings, disposable gloves, a surgical mask and changed shoes.

Student Scientific Club at the Department of Propaedeutics and Dental Prophylaxis, supervisor: Łukasz Zadrożny, MD, PhD, e-mail: lukasz.zadrozny@wum.edu.pl

Department's website: <https://propedeutyka-stomatologiczna.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