Clinical Pharmacology

1. IMPRINT

Academic Year	2026/2027
Department	Faculty of Dental Medicine
Field of study	English Dentistry Division
Main scientific discipline	Medical Science
Study Profile	General academic
Level of studies	Uniform Master's studies
Form of studies	Stationary
Type of module / course	Obligatory
Form of verification of learning outcomes	Single-choice test
Educational Unit / Educational Units	Department of Experimental and Clinical Pharmacology Centre for Preclinical Research and Technology CePT, Banacha 1b, 02-927 Warsaw, tel. (+48) 22 1166160 e-mail: farmakologia@wum.edu.pl
Head of Educational Unit / Heads of Educational Units	Prof. Dagmara Mirowska-Guzel, MD, PhD Phone: (+48) 22 1166160
Course coordinator	Marcin Granat, MSc, e-mail: marcin.granat@wum.edu.pl
Person responsible for syllabus	Prof. Dagmara Mirowska-Guzel, MD, PhD Marcin Granat, MSc, e-mail: marcin.granat@wum.edu.pl
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2. BASIC INFORMATION

Year and semester of studies	IV year, VII semester	**Number of ECTS credits**	2.0

FORMS OF CLASSES	**Number of hours**	**ECTS credits calculation**
Contacting hours with academic teacher		
Lecture (L)	5	0.2
Seminar (S)	25	1.0
Discussions (D)		
e-learning (e-L)		
Practical classes (PC)		
Work placement (WP)		
Unassisted student's work		
Preparation for classes and completions	20	0.8

3. COURSE OBJECTIVES

O1	Gaining knowledge in the field of planning and conducting clinical trials according to the principles and legal regulation of European Union.
O2	Gaining knowledge about the procedures employed in the processes of drug safety monitoring for registered medicines.
O3	Gaining knowledge about reliable sources of information about medications.
O4	Updating knowledge about safety profile of drugs commonly used in the dentistry.
O5	Gaining knowledge about medical and legal aspects of the use of cannabinoids.
O6	Gaining knowledge about pharmacotherapy of neuropathic pain.
O7	Gaining knowledge about pharmacotherapy of acute medical states that may happen in dental surgery.
O8	Gaining knowledge that enables the differentiation of dietary supplement from a drug.
O9	Gaining knowledge about anesthesia in dentistry and basic drugs used for this purpose.
O10	Gaining knowledge about antibiotic therapy of selected clinical states.

4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING

Code and number of effect of learning in accordance with standards of learning	Learning outcomes in the area of:
Knowledge – Graduate* knows and understands:	
C.W18.	mechanisms of drug action as well as pharmacokinetics and biotransformation of individual drug groups;
C.W19.	indications and contraindications to the use of drugs, their dosage, side effects and toxic effects, and drug interactions;
C.W21.	principles of preventing and combating pain and anxiety, as well as the pharmacology of medications used in life-threatening situations;
F.W3.	viral, bacterial and fungal flora of the oral cavity and its importance;
F.W4.	symptoms, course and management in selected diseases of the oral cavity, head and neck, considering age groups;
F.W13.	principles of antibiotic therapy and antibiotic resistance;
F.W16.	principles of anesthesia in dental procedures and basic pharmacological agents;
Skills– Graduate* is able to:	
C.U8.	select medicines in appropriate doses and prescribe medicines according to indications;
F.U8.	conduct treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes within soft tissues of the oral cavity, periodontium and jaws;
F.U10.	prescribe medications taking into account their interactions and side effects;

5. ADDITIONAL EFFECTS OF LEARNING

Number of effect of learning	Effects of learning in time
Knowledge – Graduate knows and understands:	
K1	-
Skills– Graduate is able to:	
S1	-
Social Competencies – Graduate is ready for:	

SC1	Communicating to the patient, in a clear and accessible manner, the essential information regarding the efficacy, limitations, and risks associated with commonly used pharmacological therapies in dentistry.

6. CLASSES

Form of class	Class contents	Effects of Learning
Lecture	L1 - Lecture 1. Nonsteroidal anti-inflammatory drugs - adverse effects. Content: Lecture about adverse effects of NSAIDs (nonsteroidal anti-inflammatory drug) based on literature reviews and meta-analyses, changes in summaries of products characteristics, and safety warnings by EMA, FDA, and the Office for Registration of Medicinal Products, Medical Devices and Biocidal Products.	C.W19.
	L2 - Lecture 2. Cannabinoids. Content: Lecture about medical and legal aspects of cannabinoids use.	C.W19.
	L3 - Lecture 3. Treatment of neuropathic pain. Content: Lecture about pharmacotherapy of neuropathic pain.	C.W21.
Seminar	S1 - Seminar 1 – Good clinical practice (GCP) Content: Seminar concerns the pre-registration drug evaluation system - the principles of good clinical and laboratory practice, formal preparation for conducting medical experiment and clinical trial.	C.W18.
	S2 - Seminar 2 - On label and off label drug use. Content: Seminar includes formal preparation for off-label use of a drug as part of a medical experiment based on current medical knowledge. It discusses the differences between innovative and generic medicines, as well as biological and biosimilar drugs.	C.W18.
	S3 - Seminar 3 - Monitoring the safety of pharmacotherapy and reliable sources of information about drugs. Content: The seminar concerns the procedure for reporting suspected non-compliance with quality standards of medicinal products and medical devices, as well as reporting suspected adverse drug reactions. It also covers the reporting of incidents involving medical devices and adverse events following immunization. The second part of the seminar is devoted to reliable sources of information about medicines, divided into: primary sources – clinical trials, systematic reviews and meta-analyses (e.g., Cochrane Collaboration), clinical practice guidelines, Summary of Product Characteristics, Pharmacopoeias, and medical textbooks. Information is provided regarding agencies responsible for drug registration (e.g., EMA). The seminar also includes information on institutions responsible for pharmacovigilance. Examples of less reliable sources are presented as well, such as product leaflets, marketing slogans and claims.	C.W19., C.U8.
	S4 - Seminar 4. Recommendations in the antibiotic therapy. Part 1. Content: The seminar focuses on antibiotic therapy in the clinical	C.W19., C.U8., F.W3., F.W4., F.W13., F.U8., F.U10., SC1

	practice of a dentist.	
	S5 - Seminar 5. Recommendations in the antibiotic therapy. Part 2. Content: The seminar focuses on antibiotic therapy in the clinical practice of a dentist.	C.W19., C.U8., F.W3., F.W4., F.W13., F.U8., F.U10., SC1
	S6 – Seminar 6. Pharmacotherapy of medical emergency and acute states. Content: Seminar concerns the pharmacotherapy of medical emergencies in the dental office (e.g., anaphylactic shock, myocardial infarction, status epilepticus). Guidelines for management and available pharmacotherapeutic options are presented.	C.W21.
	S7 - Seminar 7. Pain management in dentistry. Content: Seminar concerns analgesic pharmacotherapy in dentistry office.	C.W21.
	S8 – Seminar 8 – Anaesthesia in dentistry. Content: The seminar covers the principles of anaesthesia in dental procedures and the basic pharmacological agents used for this purpose.	C.W19.
	S9- Seminar 9 – Dietary supplements and herbal drugs. Content: The seminar addresses the differences between a medicinal product and a dietary supplement in clinical, legal, and social aspects. Information about herbal drugs and their status are presented as well.	F.W16.

7. LITERATURE

Obligatory

Katzung's Basic and Clinical Pharmacology, 16th Edition, McGraw Hill Education, 2023.

Supplementary

Goodman and Gilman's The Pharmacological Basis of Therapeutics, red. Brunton L i wsp., 14th Ed., McGraw Hill Education, 2023.

Rang & Dale's Pharmacology, 10th Edition, James M. Ritter & Rod J. Flower & Graeme Henderson & Yoon Kong Loke & David MacEwan & Emma Robinson & James Fullerton, 2023.

8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
C.W18., C.W19., C.W21., C.U8., F.W3., F.W4., F.W13., FW.16., F.U8.,	Completion of the course: passing the single-choice test. First retake: passing the single-choice test. Second retake: passing the single-choice test.	>50%

F.U10., SC1	In the case of an excused absence, the student is permitted to take the test on the date scheduled by the unit. Absence without excuse results in failing grade. If a student fails to pass the course by the final scheduled date in a current academic year, she or he does not pass the course.	

9. ADDITIONAL INFORMATION

1. Seminars are obligatory.
2. Attending at seminars and lectures must be met with condition of being listed on the student list provided by Dean's Office or having written consent by designated Dean or Deputy Dean.
3. In order to excuse an absence from classes the student is required to notify the course coordinator by e-mail or in writing, no later than within three working days after the day of absence. A later submission of the excuse is permitted if the student was unable to submit it for valid reasons; in such cases, the document should be submitted as soon as the cause for the absence ceases to exist.
4. In the case of a transfer from another university, it is necessary to promptly arrange with the Course coordinator the conditions for making up curriculum differences in the subject of clinical pharmacology.
5. Applications regarding conditional participation in clinical pharmacology classes, partial completion of the course, curriculum differences, or recognition of prior course may be submitted no later than during the first week of the academic classes. Applications submitted at a later date will be considered only in exceptional circumstances.
6. Applications for the recognition of a grade from another program may be considered only after prior approval by the Vice-Dean for Student Affairs, and no later than within the first two weeks of the academic classes.
7. Seminars missed for a justified reason must be caught up after arranging a date with the teacher conducting the classes. The time allowed for making up the missed classes is one month from the recorded date of absence.
8. All seminars and lectures will be provided in the electronic version by teachers responsible for particular topics. These materials will be delivered in the web site teams within 7 days after seminar or lecture.
9. All applications concerning the didactic problems should be addressed to Head of the Department: Professor Mirowska-Guzel and directed to the Coordinator. The decision is made by Head of the Department in the consultation with the Coordinator of the Pharmacology.
10. Office: Department of Experimental and Clinical Pharmacology, Centre of Preclinical Research and Technology CePT, Medical University of Warsaw, Banacha 1b, 02-097 Warsaw, Poland; open: Monday – Friday: 9 AM – 3 PM. Phone: (+48) 22 116 61 60, fax: (+48) 22 116 62 02 ; e-mail: farmakologia@wum.edu.pl

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ATTENTION

The final 10 minutes of the last class in the block/semester/year should be allocated to students' Survey of Evaluation of Classes and Academic Teachers