# Clinical Pharmacology

## 1. IMPRINT

| | |
|---|---|
| **Academic Year** | 2025/2026 |
| **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<br>Centre for Preclinical Research and Technology CePT, Banacha 1b, 02-927 Warsaw, tel. (+48) 22 1166160<br>e-mail: farmakologia@wum.edu.pl |
| **Head of Educational Unit / Heads of Educational Units** | Prof. Dagmara Mirowska-Guzel, MD, PhD<br>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<br>Marcin Granat, MSc, e-mail: marcin.granat@wum.edu.pl |
| **Teachers** | Ewa Widy-Tyszkiewicz, MD, PhD, SciD; ewa.widy-tyszkiewicz@wum.edu.pl<br>Aleksandra Wisłowska-Stanek, MD, PhD; awislowska@wum.edu.pl<br>Agata Karpińska, MD, PhD; agata.karpinska@wum.edu.pl<br>Swaroop Hassan, MD, swaroop.hassan@gmail.com<br>Marcin Granat, MSc, marcin.granat@wum.edu.pl |

## 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 | Drugs' mechanisms of action, pharmacokinetics and metabolism. |
| C.W19 | Indications, contraindications of drugs, their dosage, adverse drug reactions, toxic effects, and interactions. |
| C.W21 | Analgesics and anxiolytics, drugs used in life-threatening states |
| F.W3 | Viral, bacterial and fungal flora of human oral cavity and its relevance |
| F.W4 | Symptoms, course and management of selected diseases of oral cavity, head, and neck with consideration of age groups |
| F.W13 | Basics 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 medications in appropriate dosages and prescribe them based on clinical indications |
| F.U8 | Manage the treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes of the soft tissues of the oral cavity, the periodontium, and the jaw bones |
| F.U10 | Prescribe medications with consideration of 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.<br>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.<br>Content: Lecture about medical and legal aspects of cannabinoids use. | C.W19 |
| | L3 - Lecture 3. Treatment of neuropathic pain.<br>Content: Lecture about pharmacotherapy of neuropathic pain. | C.W21 |
| Seminar | S1 - Seminar 1 – Good clinical practice (GCP)<br>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.<br>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.<br>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.<br>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.<br>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.U08 |
| | S4 - Seminar 4. Recommendations in the antibiotic therapy. Part 1.<br>Content: The seminar focuses on antibiotic therapy in the clinical | C.W19., C.U08., 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.<br>Content: The seminar focuses on antibiotic therapy in the clinical practice of a dentist. | C.W19., C.U08., F.W3., F.W4., F.W13, F.U8, F.U10., SC1 |
| | S6 – Seminar 6. Pharmacotherapy of medical emergency and acute states.<br>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.<br>Content: Seminar concerns analgesic pharmacotherapy in dentistry office. | C.W21 |
| | S8 – Seminar 8 – Anaesthesia in dentistry.<br>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.<br>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.U08., F.W3., F.W4., F.W13., F.W.16., F.U8., | Completion of the course: passing the single-choice test<br>Retake: passing the single-choice test<br>Commission is oral. | >50% |

| | | |
|---|---|---|
| F.U10., SC1 | | |

## 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. One absence at seminars and one absence at lectures during a semester is allowed.
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



**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