



Syllabus of Lectures and Seminars

Week	Lectures		Seminars	
	Topic	Lecturer	Topic	Instructor/Facilitator
Week 1 21.09.2026 - 25.09.2026	<i>Wednesday (23.09.2026; 11:10 – 12:50; O-419)</i> Introduction to the study of Clinical Pharmacology and Pharmacotherapy. Rational pharmacotherapy (Pharmacotherapeutic risk, pharmacotherapeutic failure, risk-benefit ratio, pharmacotherapeutic problems)	Dr. Gabriel Dóka	<i>Tuesday (22.09.2026; 11:10 – 12:50; K-238)</i> Organization of seminars on clinical pharmacology and pharmacotherapy Use of professional information sources in pharmaceutical practice: SmPC, Lexidrug, EMA, guidelines, Cochrane Reviews	Dr. Zuzana Kiliánová
Week 2 28.09.2026 - 02.10.2026	<i>Wednesday (30.09.2026; 11:10 – 12:50; O-419)</i> Clinical trials of new drugs, types of clinical trials, design and evaluation of clinical trials (Goals and methods of stages of clinical drug testing) <i>Invited lecturer: PharmDr. Jana Klimasová, PhD. MPH - Head of the department of preclinical and clinical drug assessment at the State Institute of Drug Control, Slovakia</i>	Dr. Jana Klimasová	<i>Tuesday (29.09.2026; 11:10 – 12:50; K-238)</i> Pharmaceutical counselling in self-care patients	Dr. Gabriel Dóka
Week 3 05.10.2026 - 09.10.2026	<i>Wednesday (07.10.2026; 11:10 – 12:50; O-419)</i> Adverse effects of drugs (General characteristics, modifying factors, iatrogenic diseases as a result of irrational therapy)	prof. Ján Klimas	<i>Tuesday (06.10.2026; 11:10 – 12:50; K-238)</i> Clinical trials and interpretation, evidence-based medicine	Dr. Zuzana Kiliánová, Dr. Gabriel Dóka
Week 4 12.10.2026 - 16.10.2026	<i>Wednesday (14.10.2026; 11:10 – 12:50; O-419)</i> The impact of pathological conditions on the effectiveness and safety of pharmacotherapy; gastrointestinal, cardiovascular diseases, diseases of the excretory system	doc. Peter Vavrínek	<i>Tuesday (13.10.2026; 11:10 – 12:50; K-238)</i> Basic laboratory tests and their significance for pharmacotherapy – basic reference values of biochemical parameters and their significance for diagnosis, glycemia, lipid profile, liver tests, ionogram and others	doc. Diana Vavřincová, doc. Peter Vavrínek



Week	Lectures		Seminars	
	Topic	Lecturer	Topic	Instructor/Facilitator
Week 5 19.10.2026 - 23.10.2026	<i>Wednesday (21.10.2026; 11:10 – 12:50; O-419)</i> Drug interactions (Favorable and unfavorable drug interactions as a cause of adverse drug effects, types of drug interactions – pharmacokinetic, pharmacodynamic interactions, drug interactions with food and herbal drugs, clinical severity of interactions)	Dr. Gabriel Dóka	<i>Tuesday (20.10.2026; 11:10 – 12:50; K-238)</i> Cough, dyspnea – case reports, pharmaceutical advice	doc. Diana Vavrincová, doc. Peter Vavrínek
Week 6 26.10.2026 - 30.10.2026	<i>Wednesday (28.10.2026; 11:10 – 12:50; O-419)</i> Importance of pharmacokinetic parameters in clinical practice including pharmacokinetics of specific groups of patients – children and elderly patients	doc. Stanislava Kosírová	<i>Tuesday (27.10.2026; 11:10 – 12:50; K-238)</i> Drug interactions – case studies, work with databases	Dr. Gabriel Dóka
Week 7 02.11.2026 - 06.11.2026	<i>Wednesday (04.11.2026; 11:10 – 12:50; O-419)</i> Pharmacotherapy of specific groups of patients Specific aspects of pharmacotherapy in pregnancy and during breastfeeding (Use of drugs during pregnancy and in women of childbearing age)	Dr. Zuzana Kiliánová	<i>Tuesday (03.11.2026; 11:10 – 12:50; K-238)</i> Fever – pharmaceutical care and pharmacotherapeutic problems, case reports	doc. Stanislava Kosírová, Mgr. Natália Blažová
Week 8 09.11.2026 - 13.11.2026	<i>Wednesday (11.11.2026; 11:10 – 12:50; O-419)</i> Specific aspects of pharmacotherapy of elderly patients (Problems of drug use in the elderly, potentially inappropriate drugs, Beers criteria, EU(7)-PIM list, STOPP/START criteria, polypharmacy and deprescription) <i>Invited lecturer: PharmDr. Erik Puchoň, PhD. – pharmacist/toxicologist at the National Toxicological Information Centre at The Bratislava University Hospital</i>	Dr. Erik Puchoň	<i>Tuesday (10.11.2026; 11:10 – 12:50; K-238)</i> Headache, migraine – case reports and pharmaceutical care	Dr. Boris Dudík, Mgr. Natália Blažová



Week	Lectures		Seminars	
	Topic	Lecturer	Topic	Instructor/Facilitator
Week 9 16.11.2026 - 20.11.2026	<i>Wednesday (18.11.2026; 11:10 – 12:50; O-419)</i> Importance of knowledge of pharmacogenetics for rational pharmacotherapy (Influence of genetic factors on the effect of drugs)	Dr. Gabriel Dóka	<i>Tuesday (17.11.2026; 11:10 – 12:50; K-238)</i> Self-treatment and supportive treatment of respiratory tract infections (influenza, common cold, sore throat, COVID-19)	Dr. Boris Dudík
Week 10 23.11.2026 - 27.11.2026	<i>Wednesday (25.11.2026; 11:10 – 12:50; O-419)</i> Specific aspects related to the pharmacotherapy in women (Differences in pharmacodynamics and pharmacokinetics of women, pregnancy and ovulation tests, emergency contraception, premenstrual syndrome, dysmenorrhea, cystitis, climacteric)	Dr. Zuzana Kiliánová	<i>Tuesday (24.11.2026; 11:10 – 12:50; K-238)</i> Treatment of skin diseases (dry and oily skin, minor injuries and abrasions, dermatitis)	Dr. Eva Kráľová
Week 11 30.11.2026 - 04.12.2026	<i>Wednesday (02.12.2026; 11:10 – 12:50; O-419)</i> Specific aspects of pharmacotherapy in neonatal and pediatric patients (Differences in quantitative and qualitative parameters of drug use in children compared to adults, pharmacodynamic and pharmacokinetic aspects)	doc. Stanislava Kosírová	<i>Tuesday (01.12.2026; 11:10 – 12:50; K-238)</i> Treatment of bronchial asthma and COPD – case studies	Dr. Zuzana Kiliánová Dr. Zolfa Elyasi Gomari
Week 12 07.12.2026 - 11.12.2026	<i>Wednesday (09.12.2026; 11:10 – 12:50; O-419)</i> Specific aspects related to the pharmacotherapy in men (Benign prostatic hyperplasia, erectile dysfunction, premature ejaculation, hypogonadism, balanitis)	prof. Ján Klimas	<i>Tuesday (08.12.2026; 11:10 – 12:50; K-238)</i> Analysis of inappropriate medication in children and elderly patients and high-risk medication in pregnant women – case reports	Dr. Eva Kráľová
Week 13 14.12.2026 - 18.12.2026	Reserved topic		Reserved topic	



e-Lectures

Access	Topic	Lecturer
Moodle	Nausea and vomiting (Pharmaceutical counselling for non-specific common causes and for chemotherapy-induced, postoperative, and pregnancy-related nausea and vomiting)	Dr. Gabriel Dóka

Further e-lectures and study materials can be added in Moodle during the teaching part of the semester

Complete list of lecturers and responsible instructors of seminars and e-lectures:

- prof. PharmDr. Ján Klimas, PhD., MPH (subject guarantor, lectures)
- doc. PharmDr. Stanislava Kosírová, PhD. (lectures and seminars)
- doc. Mgr. Diana Vavrincová, PhD. (lectures and seminars)
- doc. Mgr. Peter Vavrínek, PhD. (lectures and seminars)
- PharmDr. Gabriel Dóka, PhD. (lectures and seminars)
- PharmDr. Boris Dudík, PhD. (lectures and seminars)
- PharmDr. Zuzana Kiliánová, PhD. (lectures and seminars)
- PharmDr. Jana Klimasová, PhD., MPH (invited lecturer)
- PharmDr. Eva Kráľová, PhD. (seminars)
- PharmDr. Erik Puchoň, PhD. (invited lecturer)
- Mgr. Natália Blažová (seminars)



Recommended topics for home self-preparation for seminars according to the schedule:

As part of a full-featured preparation for seminars in Clinical Pharmacology and Pharmacotherapy, we recommend that students review the topics listed below. An updated overview of knowledge from previous studies will be helpful to achieve the best possible teaching experience as well as study results.

Week 1	Use of professional information sources in pharmaceutical practice: SPC, Lexicomp, EMA, PCNE: SmPC, Lexidrug, EMA, guidelines It is recommended to bring your own laptop, tablet or mobile phone with internet/wifi connection to the seminar. Revision: structure of SmPC
Week 2	Pharmaceutical counselling in self-care patients Glossary of terms to review and understand: - pharmaceutical care, self-medication - symptoms, comorbidities, allergies, and types of allergic reactions - drug, medicine, medical aid, nutritional supplement/food - proper lifestyle and its recommendations - Methodological aid for teaching pharmaceutical counselling ("QuEST/SCHOLAR-MAC") - available in Moodle (please bring it with you to the seminars)
Week 3	Clinical trials and interpretation, evidence-based medicine - Lecture Clinical trials of new drugs, types of clinical trials, design and evaluation of clinical trials (Week 3) - Studying and exercise solving from the chapter 1 Clinical trial interpretation, EBM and critical thinking from the e-book Clinical pharmacology https://is.muni.cz/do/rect/el/estud/lf/js23/klinicka-farmakologie/web/index_en.html
Week 4	Basic laboratory tests and their significance for pharmacotherapy - basic biochemistry of glucose metabolism, acido-basic and ion balance
Week 5	Cough, dyspnea Pathophysiology - causes of cough, distribution of causes according to duration of cough, symptoms of diseases accompanied by cough Pharmacology - antitussives and expectorants, antiasthmatics and drugs used in COPD and IPF
Week 6	Drug interactions Pharmacokinetics (absorption, distribution, metabolism, elimination) - effect of pH on drugs, binding of drugs to proteins, biotransformation of drugs - CYP450 enzymes, drug transporters - PGP, drugs with a small therapeutic index. Pharmacology: selected drugs with significant interactions: warfarin, amiodarone, digoxin, azole antifungals, macrolides, clopidogrel, omeprazole, carbamazepine



Week 7	Fever Pathophysiology of fever Pharmacology - non-steroidal anti-inflammatory drugs (NSAIDs) and analgesics-antipyretics
Week 8	Headache, migraine – case reports and pharmaceutical care- pharmacology of drugs in the groups listed below - mechanism of action, active substances in registered drugs in the EU/SR, indications, typical side effects and contraindications: - Analgesics, Antipyretics, Antimigraine drugs
Week 9	Self-treatment and supportive treatment of respiratory tract infections (flu, cold, sore throat, COVID-19) Pathophysiology: upper respiratory tract infections, influenza, COVID-19 - etiology, symptoms Pharmacology: vitamins, analgesics/antipyretics, non-steroidal anti-inflammatory drugs, sympathomimetics, antiseptics, local anesthetics, antivirals
Week 10	Treatment of skin diseases Physiology - skin structure, properties, function, skin and its layers Pathology – wound healing, ulcer cruris, types of skin rashes, dermatitis, acne, urticaria
Week 11	Treatment of bronchial asthma and COPD Pathology - characteristics, symptomatology and differences between bronchial asthma and COPD Pharmacology - drugs used in the therapy of bronchial asthma and COPD, administration of drugs by inhalation
Week 12	Analysis of inappropriate medication in children and elderly patients and high-risk medication in pregnant women Pharmacokinetics – changes in pharmacokinetic parameters in special groups of patients (elderly and pediatric patients, pregnant women) - Lectures from Weeks 7, 8 & 11 -



Requirements for successful completion of the subject Clinical Pharmacology and Pharmacotherapy

1. General organization of the course:

- lectures and seminars will be held **in person** (except for e-lectures) according to the valid schedule. In case there is a change in the organization of the teaching process during the semester based on current measures and regulations, seminars and/or lectures may be changed to online teaching in MS Teams in a direct oral form between the teacher and students. Students will be informed in time about any change.
- schedule of lectures:

Day and time	Room
Wednesday, 11:10 – 12:50	O-419

- schedule of seminars:

Day and time	Room
Tuesday, 11:10 – 12:50	K-238

- study materials from lectures and seminars (syllabus, requirements for course completion, presentations, recommended resources, sample essays, case studies, etc.) will be published for course participants on the official E-Learning website (Moodle).
- **in case of illness, suspicion of a contagious disease or in case of close contact with an infected person**, the student should not endanger his/her health or the health of other people and should therefore observe social distancing. From isolation, the student will connect electronically (by e-mail or via MS Teams) with the relevant teacher, especially of seminars, and consult about the method of completing the teaching in this subject - the method will be determined by the teacher, for example, the replacement of the seminar, the possibility to complete the seminar/lecture online via MS Teams, etc.

2. Lectures and e-lectures:

- attendance at all lectures is mandatory, the presence can be verified by the respective teacher.
- if necessary, for organizational reasons, selected lectures will be held online in MS Teams. Students will be informed in time about this eventuality.
- e-lectures are audiovisual and/or electronic written materials that will be available in Moodle for self-study. For each e-lecture, a space for consultations and student questions will be created in Moodle, which should complement the experience of the lecture to a similar extent as for face-to-face lectures.
- e-lectures are a regular part of the subject syllabus, they will also be part of the final exam.
- In the case of **lectures by invited lecturers**, students' attendance will always be recorded in the attendance list. An absence from such a lecture will be considered as an absence from a seminar = the missed topic will have to be substituted in the same way as in the case of non-attendance at a seminar. The method of substitution of absence will be determined by Dr. Dóka and Dr. Kiliánová.



3. Seminars:

- participation in all seminars is mandatory, 100% participation is required.
- the student completes the seminars on the date officially listed in the schedule in AIS2. The conflict in the schedule is resolved exclusively by the Study Department.
- **every missed seminar must be replaced by the student.** The student will contact the teacher of the relevant missed seminar as soon as possible (in person or in writing from the university email) and request a replacement. The teacher will determine the form, requirements and date of the seminar replacement (e.g. preparation of a seminar paper with/without an oral presentation, oral or written examination, etc.). The seminar is considered as replaced only if the assigned replacement is deemed adequately fulfilled by the relevant teacher.
- the student is obliged to successfully replace all seminars by December 18, 2026 (inclusive) at the latest.

4. Preparation for seminars:

- all seminar participants are required to be adequately prepared for the topic covered, which includes (but is not limited to):
 - o revision of knowledge from previous subjects: physiology, pathophysiology, pathology, biochemistry, pharmacology
 - o recommended topics for home self-training are also listed in the appendix to the seminar syllabus.
- the purpose of these recommendations for readiness is to develop discussion within the group during lessons as well as the ability to communicate constructively about the professional topics discussed.
- **readiness for the topic covered can be verified by the teacher's** oral examination or a short test. In case the teacher evaluates the student's readiness as insufficient, the student will be required to make up the seminar as in the case of absence.
- we recommend, that students take advantage of the opportunity to consult with teachers to supplement their knowledge and skills. You can consult any clinically oriented question or ambiguity from the course after your adequate previous preparation for a discussion with teachers in the subject. Arrange consultations in advance via email or in person with your chosen teacher. Consultations are an excellent tool for obtaining more detailed and personalized information, answers to your specific questions, links to suitable additional resources as well as the possibility of more direct contact with teachers. Consultations are perceived by teachers as an effort to improve and are not taken into account in the evaluation of the subject, that is, neither positively nor negatively.

5. Seminar assignment:

- each student will complete one seminar assignment.
- the assignment will be specified by the teacher to whom the student will be designated. Students will be designated to individual teachers at the first seminar. Subsequently, the teacher will send the assignment to individual students, including instruction about the form of preparation and, as well as a date for presenting the results/solutions to the assignment at the relevant seminar. The type and form of seminar assignments may vary depending on the topics covered by individual teachers.
- evaluation of the seminar assignment: the evaluating teacher will award a percentage grade for the solution and presentation, which will consider quality and correctness. **A successfully completed seminar assignment with a minimum score of 60% is a condition for admission to the final exam.**
- **the result of the seminar assignment assessment accounts for 10% of the overall course grade.**



6. Final exam:

- the student is eligible and can register for the final exam only if he/she has fulfilled all the previous requirements.
- students register for the exam on available dates in AIS2. Further organization instructions for the exam will be published in Moodle in advance.
- **the final exam will consist of an exam test**
- **the examination test** will take place electronically or in writing. The subject of the examination test will be questions from the topics of lectures, e-lectures and seminars. The examination test will take place in person if the situation allows it, or if the situation does not allow it, the examination test will be organized online under stricter conditions.
- the minimum score for passing the final exam is 60% of the final written exam. The grade will be determined according to the scale below.
- the student is entitled to one regular and two retake attempts within the available dates published in AIS2. In case a student does not appear for the exam date for which he/she was enrolled in AIS2, he/she will be graded Fx in accordance with the Study Regulations.
- all exam dates will be published in AIS2 before the start of the exam period. Students are reminded that additional dates will not be added during the exam period. It is the student's responsibility to plan the exam schedule in advance according to their individual capacities.
- **the result of the written exam test accounts for 90% of the overall course grade.**
- **the final course grade consists of the weighted average of the results of the seminar assignment and the final exam, calculated according to the following formula:**

$$\text{Course grade} = \text{seminar assignment assessment (\%)} * 0,1 + \text{final exam assessment (\%)} * 0,9$$

- The final exam grade will be determined according to the following scale:

A =	100 % - 92 %
B =	91 % - 84 %
C =	83 % - 76 %
D =	75 % - 68 %
E =	67 % - 60 %
Fx =	< 60 %

7. Recommended Literature and Sources:

Selected online databases:

- **Lexidrug.** UpToDate Lexidrug Standard. Wolters Kluwer. 2026. Link: <https://online.lexi.com/>
- **European Medicines Agency (EMA).** Link: <https://www.ema.europa.eu/>
- **State Institute for Drug Control (Štátny ústav pre kontrolu liečiv; ŠÚKL).** Link: <https://www.sukl.sk/>
- **Cochrane library.** Cochrane. Link: <https://www.cochranelibrary.com/>



e-books and printed books (e-book section from Central Library: <https://www.fpharm.uniba.sk/en/divisions/central-library/ebooks/>):

- Brown M.J., Sharma P., Mir F.A., Bennet P.N.: **Clinical Pharmacology**. 12th Edition. Elsevier. 2018 (e-book available from Central Library)
- Francis S-A, Smith F.J., Malkinson J., Constanti A., Taylor K. **Integrated Pharmacy Case Studies**. Pharmaceutical Press. 2015 (e-book available from Central Library)
- Gray A.H., Wright J., Bruce L., Oakley J. **Clinical Pharmacy**. Second Edition. Pharmaceutical Press. 2016 (available in Central Library for present studying)
- Nathan A: **Managing symptoms in the pharmacy**. Second Edition. Pharmaceutical Press. 2012 (e-book available from Central Library)
- Rychlíčková J., Součková L.: **Clinical pharmacology**. Department of Pharmacology, Faculty of Medicine, Masaryk University https://is.muni.cz/do/rect/el/estud/lf/js23/klinicka-farmakologie/web/index_en.html
- *presentations and materials from lectures and seminars – available in Moodle for this course.*

Note: additional recommended guidelines, standards or other relevant resources will be published for individual topics/nosological units during teaching, as needed.

Bratislava, September 14, 2026

prof. PharmDr. Ján Klimas, PhD., MPH
garant predmetu