

Subject: Pharmacology 2026/2027

Field of study: Medicine

Year of studies: III

Form of classes: Exercises and seminars

Duration: 4 teaching hours

Classes

Stage	Time	Content and activities of the lecturer	Student activity
Organization	10 min	Welcome, checking attendance, announcing the topic and objectives of the lesson.	They listen and prepare materials.
Introduction	20 min	A brief review of concepts from the last session: pharmacodynamics, spectrum of action and adverse drug reactions. Questions can be directed to the group or individually.	They answer introductory questions.
Main part	70 min	Discussion of selected groups of drugs, their mechanisms of action, indications and adverse effects. • Short test and answers to students' questions asked after it; • Student presentations on selected topics assigned at the beginning of the academic year ; • A presentation by the lecturer covering the teaching material, excluding topics previously discussed by students to avoid duplication ; • Worksheets with joint discussion and review; after class, the worksheets are given to students for independent study at home;	They take notes, ask questions, and participate in discussions.

Stage	Time	Content and activities of the lecturer	Student activity
Clinical cases	40 min	Presentation of a clinical case and analysis of the choice of pharmacotherapy, taking into account indications, contraindications, dosage, adverse effects, interactions and individual patient characteristics.	In groups, they propose a solution and justify their choice.
Practical part	20 min	Discussion of the principles of drug prescribing and therapeutic procedures. Presentation of selected medications, including examples such as powder inhalers, pens, ointments, creams, emulsions, and ointment bases	They supplement the prescription template or procedure flowchart.
Summary	20 min	Summary of the most important conclusions and verification of achievement of goals.	They answer summary questions.
Total	180 min		

Seminars

Stage	Time	Content and activities of the lecturer	Student activity
Organization	10 min	Welcome, checking attendance, announcing the topic and objectives of the lesson.	They listen and prepare materials.
Introduction	20 min	A brief review of concepts from the last session: pharmacodynamics, spectrum of action, and adverse drug reactions. Questions can be directed to the group or individually.	They answer introductory questions.
Main part	130 min	In-depth discussion of selected drug groups, with particular emphasis on mechanisms of action, indications, contraindications, adverse effects, and interactions. • Short test and answers to students' questions asked after it • Student presentations on previously assigned topics, supplemented by commentary from the academic teacher.	They present prepared topics, ask questions, participate in discussions and compare the properties of the drug groups discussed.

Stage	Time	Content and activities of the lecturer	Student activity
		• Guided discussion and problem-solving questions to compare individual drug groups and reinforce key concepts. • Depending on the topic of the classes, the issues of drug resistance, individualization of pharmacotherapy, including the importance of genetic testing, and contemporary directions of therapy development are also discussed, • Presentation by the lecturer covering the teaching material, excluding issues previously discussed by students, to avoid duplication of content. • Worksheets containing problem-solving questions and tasks for comparing the pharmacological properties of the drug groups discussed, jointly analyzed and discussed during classes	
Summary	20 min	Summary of the most important conclusions and verification of achievement of goals.	They answer summary questions.
Sum	180 min		

Teaching aids – classes:

- clinical case worksheet,
- diagrams of drug action mechanisms,
- sample prescriptions / prescription templates,
- examples of medications, e.g. powder inhalers, Mounjaro pens, ointments, creams, emulsions, ointment bases, suppositories and cocoa butter,
- presentation of an academic teacher,
- board or flipchart,
- computers with access to online databases of information on medicinal products
- Summary of Product Characteristics and current sources of information on medicines.

Teaching methods –classes:

- clinical case analysis,
- guided discussion,
- work in small groups,
- solving practical tasks,
- exercises in the field of prescription and selection of therapeutic procedures.

Teaching aids – seminars:

- students' multimedia presentations,
- presentation of an academic teacher,
- diagrams of drug action mechanisms,
- worksheet
- board or flipchart,
- computers with access to online databases of information on medicinal products, Summary of Product Characteristics and current sources of information on medicines.

Teaching methods – seminars:

- oral presentation of students with elements of discussion,
- guided discussion,
- problem questions,
- comparing the mechanisms of action, indications, contraindications, side effects and interactions of individual drug groups.

General purpose:

To familiarize students with the pharmacological characteristics of selected groups of drugs and their practical application in treatment.

Specific objectives:

After completing the course, the student:

- knows the mechanism of action of the drugs
- knows the spectrum of action and main clinical indications
- knows the most important side effects
- is able to select the basic drug group for the clinical situation
- can discuss the principles of safe use of medications
- can prescribe selected medications in accordance with the course content
- can perform simple pharmacokinetic calculations and use them in basic tasks related to drug dosing
- can select a drug and its dose for a given clinical situation
- can use reliable databases of information on medicinal products and Summary of Product Characteristics
- can propose a rational pharmacotherapy regimen for infections within relevant topics.

Linking lesson elements to learning outcomes

Element of the course	Learning outcomes	Method of implementation
Introduction/Review	C.W35–C.W39	Knowledge of drug groups, mechanisms of action, pharmacokinetics, principles of pharmacotherapy and adverse effects.
The main part of the classes	C.W35–C.W39; C.U14	Characteristics of drugs and selection of drug and dose for the clinical problem.

Element of the course	Learning outcomes	Method of implementation
Clinical cases	C.U14; C.U15; C.U17	Selection of pharmacotherapy, rational chemotherapy of infections (where applicable) and use of sources of information about drugs.
Practical part / prescriptions	C.U16	Preparation of prescription records in accordance with the scope of classes.
Pharmacokinetic tasks	C.U13	Performing simple pharmacokinetic calculations and their application to dosing.
Seminar – drug analysis and comparison	C.W35–C.W42	In-depth analysis of mechanisms, indications, contraindications, interactions and directions of therapy.
Toxicology – when it arises from the topic	C.W43–C.W46; C.U18–C.U19	Assessment of toxicological hazards, symptoms of poisoning, diagnostic procedures and interpretation of tests.