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Khanty-Mansiysk Autonomous Okrug-Ugra
 "Surgut State University"

Approved by
 Deputy Rector for Academic Affairs

_____ E.V. Konovalova

“ 11” June 2026, Record No. 5

Clinical pharmacology

Syllabus

Department	Internal diseases		
Curriculum	s310501-ЛечДелоИн-26-6.plx Specialty 31.05.01 General Medicine		
Qualification	General Practitioner		
Form of education	Full-time		
Total (in credits)	3		
Total academic hours	108		
including Contact	64		Control: credit with a mark 12 term
Self-study	44		

Course outline in terms

Academic year (Term)	12 (6.2)		Total	
	Cur	Syl		
Weeks	17 2/6		Cur	Syl
Lectures	16	16	16	16
Practical	48	48	48	48
Contact work	48	48	48	48
Self-study	44	44	44	44
Total	108	108	108	108

The Syllabus is compiled by:
PhD in Medical Sciences,
Senior lecturer, Frolenkova L. A.

The Syllabus

Clinical pharmacology

Developed in accordance with Federal State Educational Standard:

Federal State Educational Standard of higher education in
the specialty 31.05.01 General medicine (Order of the
Ministry of Education and Science of the Russian
Federation 12.08.2020 г. № 988)

Based on the Curriculum:

31.05.01 GENERAL MEDICINE

Specialization: General Medicine

Approved by the Academic Council of Surgut State University, “11” 06 2026, Record No. 5

The Syllabus was approved by the department

Internal diseases

Head of Department, Doctor of Medicine, Professor Aryamkina O.L.

1. COURSE OBJECTIVES

- 1.1 **The aim** of the course is to master general principles of pharmacotherapy of diseases and approaches to the selection of effective, safe and available medications (MS) for modern individualized pharmacotherapy using basic data on pharmacokinetics (PK), pharmacodynamics (PD), pharmacogenetics (PG), adverse drug reactions (ADR) and guidelines of evidence-based medicine (EBM).

2. COURSE OVERVIEW

Course code (in curriculum)	B1 B 25
2.1 Assumed background:	
2.1.1	Bioethics
2.1.2	Latin
2.1.3	Microbiology, Virology
2.1.4	Anatomy
2.1.5	Chemistry
2.1.6	Biology
2.1.7	Internal Diseases Propaedeutics, X-Ray Diagnostics
2.1.8	Hominal Physiology
2.1.9	Biochemistry
2.2 Post-requisite courses and practice:	
2.2.1	Hospital Therapy, Endocrinology
2.2.2	Ambulatory Therapy

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-7.1: Demonstrates knowledge of the classification, mechanisms of action, pharmacokinetics, and pharmacodynamics of medicinal products used in various fields of medicine; is able to determine indications and contraindications for their prescription, assess possible adverse effects and complications, and apply non-pharmacological therapy methods taking into account the mechanism of action, indications and contraindications, and possible adverse effects and complications.

GPC-7.2: Prescribes modern treatment regimens for diseases based on approved current Clinical Guidelines.

GPC-7.3: Monitors the efficacy and safety of the prescribed treatment for diseases based on approved current Clinical Guidelines.

GPC-8.3: Determines the need for the use of natural therapeutic factors, pharmacological and non-pharmacological therapy, and other methods in patients requiring medical rehabilitation and sanatorium-and-spa treatment.

PC-5.1: Demonstrates knowledge of the mechanisms of action, methods of application of pharmacotherapy, therapeutic nutrition, medical devices, and non-pharmacological treatment methods, as well as palliative and personalized medical care.

PC-5.2: Provides treatment to various categories of patients with diseases in outpatient settings, inpatient settings, and centers of high-tech medical care (HTMC) using medicinal products, medical devices, and therapeutic nutrition, taking into account the clinical picture, in accordance with current procedures, standards of medical care, and clinical guidelines (treatment protocols).

PC-5.3: Prescribes non-pharmacological treatment methods, palliative and personalized medical care to the patient.

PC-5.4: Demonstrates knowledge of adverse effects of medicinal products, methods of their administration, and duration of their use; evaluates the efficacy and safety of ongoing pharmacotherapy, therapeutic nutrition, and the use of non-pharmacological treatment, as well as therapeutic nutrition in palliative medical care.

PC-9.1: Conducts analysis of medical information.

PC-9.2: Presents medical information based on evidence-based medicine.

PC-10.1: Participates in the implementation of new methods and techniques aimed at protecting the health of citizens.

By the end of the course students must:

3.1 know:	
3.1.1	- the peculiarities of the subject and objectives of the discipline Clinical Pharmacology;
3.1.2	- role, place and connection with other Sciences in the system of biological and medical disciplines;
3.1.3	- main historical stages of Clinical Pharmacology evolution;
3.1.4	- prospects for the development of Science and new directions in the study of Clinical Pharmacology;
3.1.5	- the main groups of medications, peculiarities of their application, proposed clinical indications and contraindications for use;

1.1	Section 1. Introduction to Clinical Pharmacology. 1.1 Introduction to Clinical Pharmacology. Essentials of rational pharmacotherapy. Fundamentals of evidence-based medicine. Side effects of medications. Interaction of medicines /Self-study/	12	3	GPC-7.1 GPC7.2 GPC-7.3 PC-5.1 PC-5.4 PC-9.1 PC-9.2 PC10.1	L1.1 L2.1 L3.1	0	
1.2	Essentials of rational pharmacotherapy. Fundamentals of evidence-based medicine. Side effects of medications. Interaction of medicines. / Pr/	12	6	GPC7.1 GPC7.2 GPC7.3 PC5.1 PC5.4 PC9.1	L1.1 L2.1 L3.1	1	
1.3	Essentials of rational pharmacotherapy. Fundamentals of evidence-based medicine./ Pr/	12	6	GPC7.1 GPC7.2 GPC7.3 PC5.1 PC5.4 PC9.1 PC9.2 PC10.1	L1.1 L2.1 L3.1	1	
	Section 2. Clinical Pharmacology of medications used in diseases of cardiovascular system.						
2.1	Clinical Pharmacology of antianginal and lipid-lowering medications. Clinical Pharmacology of antihypertensive agents. Basic principles of arterial hypertension pharmacotherapy /Self-study/	12	3	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
2.2	Basic principles of pharmacotherapy of chronic and acute heart failure. /Self-study/	12	3	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
2.3	Clinical Pharmacology of antiarrhythmic medications. Basic principles of pharmacotherapy of cardiac arrhythmias /Self-study/	12	3	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
2.4	Clinical Pharmacology of antianginal and lipid-lowering medications. /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	1	

2.5	Clinical Pharmacology of antianginal and lipid-lowering medications. The basic principles of pharmacotherapy of hypertension. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
2.6	Clinical Pharmacology of antihypertensive agents. Basic principles of arterial hypertension pharmacotherapy /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	1	
2.7	Basic principles of pharmacotherapy of chronic and acute heart failure. /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	1	
2.8	Basic principles of pharmacotherapy of chronic and acute heart failure. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
2.9	Clinical Pharmacology of antiarrhythmic medications. Basic principles of pharmacotherapy of cardiac arrhythmias. /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1 E1	1	
2.10	Clinical Pharmacology of antiarrhythmic medications. Basic principles of pharmacotherapy of cardiac arrhythmias. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
	Section 3. Clinical Pharmacology of medications used in diseases of the bronchopulmonary system.						
3.1	Clinical Pharmacology of medications used by bronchial obstruction syndrome. Basic principles of pharmacotherapy of bronchial asthma and chronic obstructive pulmonary disease. /Self-study/	12	3	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1	L1.1 L2.1 L3.1 E1	0	

3.2	Clinical Pharmacology of medications used by bronchial obstruction syndrome. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3	L1.1 L2.1 L3.1	0	
3.3	Clinical Pharmacology of medications used by bronchial obstruction syndrome. Basic principles of pharmacotherapy of bronchial asthma, chronic obstructive pulmonary disease. /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4	L1.1 L2.1 L3.1	1	
Section 4. Clinical Pharmacology of medications used in diseases of the gastrointestinal tract.							
4.1	Clinical Pharmacology of medications used in diseases of the gastrointestinal tract. /Self-study/	12	3	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1	L1.1 L2.1 L3.1 E1	0	
4.2	Clinical Pharmacology of medications used in diseases of the gastrointestinal tract. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1	L1.1 L2.1 L3.1	0	
4.3	Clinical Pharmacology of medications used in diseases of the gastrointestinal tract. /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1	L1.1 L2.1 L3.1	1	
Section 5. Clinical Pharmacology of medications used in kidney diseases.							
5.1	Clinical Pharmacology of medications used in chronic and acute renal failure. /Self-study/	12	3	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1	L1.1 L2.1 L3.1 E1	0	
5.2	Clinical Pharmacology of medications used in chronic and acute renal failure. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4	L1.1 L2.1 L3.1	0	
5.3	Clinical Pharmacology of medications used in chronic and acute renal failure. /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
Section 6. Clinical Pharmacology of antibacterial, nonsteroidal and steroid anti-inflammatory medications.							
6.1	Clinical Pharmacology of antibacterial, nonsteroidal and steroid anti-inflammatory medications. /Self-study/	12	3	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2	L1.1 L2.1 L3.1 E1	0	
6.2	Clinical Pharmacology of antibacterial agents. Clinical Pharmacology of nonsteroidal and steroid anti-inflammatory medications. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2	L1.1 L2.1 L3.1	0	

6.3	Clinical Pharmacology of antibacterial agents. Clinical Pharmacology of nonsteroidal and steroid anti-inflammatory medications. /Pr/	12	6	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2	L1.1 L2.1 L3.1	0	
Section 7. Clinical and pharmacological approaches to the selection, efficiency assessment and safety of medications affecting hemostasis.							
7.1	Clinical and pharmacological approaches to the selection, efficiency assessment and safety of medications affecting hemostasis. /Self-study/	12	4	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2	L1.1 L2.1 L3.1 E1	0	
7.2	Clinical and pharmacological approaches to the reasons for the appointment, selection, efficiency assessment and safety of medications affecting hemostasis. /Lec/	12	2	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2	L1.1 L2.1 L3.1	0	
7.3	Clinical and pharmacological approaches to the reasons for the appointment, selection, efficiency assessment and safety of medications affecting hemostasis. /Pr/	12	4	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3	L1.1 L2.1 L3.1	0	
Section 8. Final class							
8.2	Control work /Control/	12	0	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	
8.4	Credit with a mark	12	0	GPC-7.1 GPC-7.2 GPC-7.3 GPC-8.3 PC-5.1 PC-5.2 PC-5.3 PC-5.4 PC-9.1 PC-9.2 PC-10.1	L1.1 L2.1 L3.1	0	

5. ASSESSMENT TOOLS

5.1. Tests and tasks

Supplement 1

5.2. Topics for written papers

Supplement 1

6. COURSE (MODULE) RESOURCES

6.1. Recommended Literature

6.1.1. Core

	Authors	Title	Publish., year	Quantity
L1.1	Alyautdin R. N.	Pharmacology. Illustrated textbook.	Moscow: GEOTAR Media, 2020, electronic resource	1

6.1.2. Supplementary

	Authors	Title	Publish., year	Quantity
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L2.1	Kharkevitch, D. A.	Parmacology: Textbook	Moscow: GEOTAR Media, 2019, electronic resource	1
6.1.3. Methodical development				
	Authors	Title	Title	Quantity
L3.1	Stolbova M. V., Mitrofanova I. S., Chernysheva T. V., Liskova Yu. V., Tenchurina L. R.	Clinical pharmacology of antibacterial drugs: Textbook for 6th year- students of the Foreign Students Faculty	Orenburg State Medical University, 2020, electronic resource	1
6.2. Internet resources				
E1	FREE MEDICAL JOURNALS. Access mode: http://www.freemedicaljournals.com			
6.3.1 Software				
6.3.1.	Operational system Microsoft, applied programs pack Microsoft Office			
6.3.2 Information Referral systems				
6.3.2.1	E-data bases: PГБ, Orbicon, Medline			
6.3.2.2	Student Consultant http://www.studmedlib.ru			
7. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE (MODULE)				
7.1	Classrooms for lecture classes, practical classes, group and individual consultations, current control and interim examination are equipped with: typical educational furniture, technical teaching aids, and employees for the presentation of educational information.			
7.2	Practical classes, individual consultations, current control and interim control are held in the classroom of the Department of Internal Diseases of the MI based on SOKB platform.			