

**Course Outline for Seminar-Based Classes
in the Discipline of Clinical Pharmacology for the Students Enrolled in 2020
Program: 31.05.01 General Medicine (Specialist Degree, Full-Time Study)
Academic Year 2025–2026**

№	Topic	Practical training	Watch
10th semester (2024-2025 academic year)			
1.	Clinical pharmacology: its sections, key terms, and concepts. 1. Introduction. The role of clinical pharmacology in rational drug selection. Regulatory legal acts. Federal Law No. 61-FZ "On the Circulation of Medicines." Reference and generic drugs. 2.	-	6
2.	Pharmacokinetics. Pharmacodynamics, Basic Concepts and Their Practical Significance. ¹ Pharmacokinetic characteristics of drugs in children, pregnant and lactating women, and the elderly. Pharmacokinetic curve, calculation of loading and maintenance doses. ²	-	6
3.	Basic concepts of pharmacodynamics. ¹ Drug target molecules. Antagonists, agonists, and partial agonists. Mechanisms of drug action. Types of pharmacological response. Drug interactions: pharmaceutical, pharmacokinetic, and pharmacodynamic interactions. ²	-	6
4.	Pharmacovigilance. ¹ The system of rational use of drugs in Russia. Classification of adverse drug reactions. Naranjo scale. Notification system. Notification card. ²	-	6
5.	Clinical guidelines. ¹ Clinical Guidelines Index. List of Vital and Essential Medicines. Standards of Pharmacotherapy. ²	WP	6
6.	Clinical trials of drugs. ¹ Basic Concepts and Methods of Evidence-Based Medicine. Basic Principles and Methodology of Evidence-Based Medicine. Levels of Evidence and Classes of Recommendations. ²	-	6
7.	Principles of rational medical information retrieval. ¹ Systematic reviews, meta-analysis. The Cochrane system ²	-	6
8.	Clinical pharmacology of antimicrobial drugs. ¹ Principles of Rational Antibiotic Therapy. The Antimicrobial Stewardship Strategy. Mechanisms of Antibiotic Resistance. ²	WP	6
9.	Clinical pharmacology of antimicrobial drugs. ¹ Clinical pharmacology of beta-lactam antibiotics: penicillins, cephalosporins, carbapenems, monobactams; other groups: macrolides, aminoglycosides, fluoroquinolones, glycopeptides, oxazolidinones, tetracyclines. ²	WP	6
10.	Clinical pharmacology of anti-inflammatory drugs. ¹ Clinical pharmacology of steroidal and nonsteroidal anti-inflammatory drugs. Indications, contraindications, and adverse drug reactions. Clinical and pharmacological features of the use of nonsteroidal anti-inflammatory drugs in pediatric practice. ²	WP	6
ИТОГО			60
11th semester			

11.	Rational Pharmacotherapy of Cardiovascular Diseases. Clinical and Pharmacological Characteristics of Individual Groups of Drugs. ¹ Clinical pharmacology of antihypertensive agents. Clinical pharmacology of antiarrhythmic drugs. Clinical pharmacology of cardiotonic agents. ²	WP	6
12.	Clinical pharmacology of drugs used in acid-dependent diseases of the stomach and functional diseases of the digestive tract. ¹ Clinical and pharmacological characteristics of individual groups of drugs. Antacids. PPIs. H2-histamine blockers. Prokinetics. ²	WP	6
13.	Rational Pharmacotherapy of Broncho-Obstructive Diseases. Clinical and Pharmacological Characteristics of Individual Groups of Medications. ¹ Clinical pharmacology of ICS. Clinical pharmacology of β_2 agonists. Clinical and pharmacological features of the use of ICS, β_2 agonists in the practice of a general practitioner. ²	WP	6
14.	Rational pharmacotherapy of allergic diseases (antihistamines). Clinical pharmacology of antihistamines. ¹ Mechanism of action. Indications, contraindications, adverse drug reactions. Clinical and pharmacological aspects of the use of antihistamines in the practice of a general practitioner ²	WP	6
15.	Clinical pharmacology of antiviral drugs, immunomodulators, and genetically engineered biological agents. ¹ Mechanism of action. Indications, contraindications, adverse drug reactions. Clinical and pharmacological features of the use of antiviral drugs and immunomodulatory drugs in general practitioner practice. ²	WP	6
Total			30

¹ – topic

² – content

WP – working with a patient

Considered at a meeting of the Department of Clinical Pharmacology and Intensive Care, minutes of May 26, 2025, No. 11.

Head of Department



V.I.Petrov