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**Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University**

Institute of Medicine

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Clinical pharmacology

course title

Recommended by the Didactic Council for the Education Field of:

31.05.03 Dentistry

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

Dentistry

higher education programme profile/specialisation title

2024-2025

1. COURSE GOAL(s)

The goal of the course “**Clinical pharmacology**” is to equip students with theoretical knowledge and practical skills of choosing and prescribing effective, safe and economically reasonable drugs in order to be able to use rational and personalized pharmacotherapy based on the authentic data on pharmacokinetics, pharmacodynamics, drug interactions, adverse drug reactions, pharmacogenetics, pharmacoeconomics, pharmacoepidemiology and principles of evidence-based medicine.

The discipline consists of 2 modules and 13 topics and is targeted at the study of general and specific issues of clinical pharmacology for mastering the skills of rational use of medications in dentistry practice.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) «**Clinical pharmacology**» is aimed at the development of the following competences /competences in part: GPC-6, GPC-10, PC-2.

Table 2.1. List of competences that students acquire through the course study

Competence code	Competence	Indicators of Competence Formation (within the framework of this discipline)
GPC-6	Being able to prescribe non-drug and drug treatment, monitor its efficacy and safety when solving professional tasks	GPC-6.1. Developing a plan for dental disease treatment taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the medical care standards.
		GPC-6.3. Assessing the possible side effects of taking medicinal drugs.
		GPC-6.5. Organizing the prevention and treatment of complications, side effects, undesirable reactions, including the unforeseen ones, which can arise from diagnostic or medicinal manipulations, use of drugs and (or) medical devices, non-drug treatment at a dental appointment.
		GPC-6.7. Prescribing medicinal drugs, medical devices, taking into account the diagnosis, age and clinical picture, and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account medical care standards.
		GPC-6.9. Evaluating the efficacy and safety of using medicinal drugs, medical devices and other methods of treatment at a dental appointment.

GPC-10	Being able to organize the nursing care work of junior and paramedical staff	GPC-10.4. Drawing up a plan and report on their work.
PC-2	Being able to prescribe, monitor the efficacy and safety of non-drug and drug treatment	PC-2.2. Selecting drugs and medical devices (including dental materials) for dental disease treatment assessing the possible side effects of taking medicinal drugs.
		PC-2.4. Selecting the type of local anesthesia/anesthesia and assessing the possible complications caused by using it.

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GPC-6	Being able to prescribe non-drug and drug treatment, monitor its efficacy and safety when solving professional tasks	Dermatovenerology; Pediatric Dentistry; Diseases of head and neck; Prosthodontics (Simple Prosthetics); Immunology, clinical immunology; Cariology and Hard Tissues Diseases; Clinical dentistry; Medical genetics in dentistry; General Surgery; Orthodontics and Pediatric Prosthodontics; Prosthodontics (Complex Prosthetics); Prosthodontics of Edentulous Patient; Surgical Diseases; Surgery of oral cavity; Maxillofacial and gnathic surgery; Basics of military training; Life safety; Internal medicine; Gerodontology and Oral Mucosa Diseases; Neurology; Periodontology; Pediatrics; Psychiatry and Narcology; Endodontics; Medical rehabilitation; Pharmacology; Material science; Obstetrics; Emergency Conditions in Outpatient Dentistry Practice	

GPC-10	Being able to organize the nursing care work of junior and paramedical staff	Practice for Obtaining the First Professional Skills in the Positions of Nursing Staff (Observing and Assisting a Registered Nurse); Organization of patient care; Internal medicine; Public Health and Healthcare	
PC-2	Being able to prescribe, monitor the efficacy and safety of non-drug and drug treatment	Assistant of dentist (surgeon); Assistant of dentist (therapist); Assistant of dentist (pediatrics); Endodontics; Pediatric Dentistry; Cariology and Hard Tissues Diseases; Clinical dentistry; Orthodontics and Pediatric Prosthodontics; <i>Bioelements in medicine</i> **; Gerodontics and Oral Mucosa Diseases; <i>Medical elementology</i> **; Periodontology; Propedeutics of dental diseases; Prosthodontics (Simple Prosthetics); Medical genetics in dentistry; Prosthodontics (Complex Prosthetics); Prosthodontics of Edentulous Patient; Infectious diseases, phthisiology; Diseases of head and neck; Organization of patient care; Physiotherapy of dental diseases; Local anesthesia and anesthesiology in dentistry; Surgery of oral cavity; Maxillofacial and gnatic surgery; Innovative technologies in dentistry	

* To be filled in according to the competence matrix of the higher education programme.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course «Clinical pharmacology» is 2 credits (72 academic hours).

Table 4.1. Types of academic activities during the periods of higher education programme mastering (**full-time training**)*

Type of academic activities	Total academic hours	Semesters/training modules			
		10			
<i>Contact academic hours</i>	51	51			
including:					
Lectures (LC)					
Lab work (LW)	51	51			
Seminars (workshops/tutorials) (S)					
<i>Self-studies</i>	18	18			
<i>Evaluation and assessment (exam/passing/failing grade)</i>	3	3			
Course workload	academic hours_	72	72		
	credits	2	2		

* To be filled in regarding the higher education programme correspondence training mode.

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
General issues of clinical pharmacology.	1.1 Subject and tasks of clinical pharmacology(CP). Clinical research. Principles of evidence-based medicine.	LW
	1.2 Fundamentals of clinical pharmacokinetics.	LW
	1.3 Fundamentals of clinical pharmacodynamics.	LW
	1.4 Interaction of drugs.	LW
	1.5 Drug safety. Adverse drug reactions.	LW
Clinical and pharmacological approaches to the choice and use of medications in dental diseases and emergency conditions.	2.1 Clinical and pharmacological approaches to the choice and use of antibacterial drugs in dental practice.	LW
	2.2 Clinical and pharmacological approaches to the choice and use of antifungal and antiviral drugs in dental practice.	LW
	2.3 Clinical and pharmacological approaches to the choice and application of antiseptics and irrigants in dental practice.	LW
	2.4 Clinical and pharmacological approaches to the choice and application of painkillers in dental practice.	LW
	2.5 Clinical and pharmacological approaches to the choice and use of anti-inflammatory, anti-allergic drugs and immunomodulators.	LW
	2.6 Clinical and pharmacological approaches to the choice and use of medicines used in hemostasis disorders (bleeding and thrombosis).	LW
	2.7 Clinical pharmacology of drugs for the treatment of phosphorus-calcium metabolism disorders.	LW
	2.8 Clinical and pharmacological approaches to the choice and use of medicines used in urgent and life-threatening conditions.	LW

* - to be filled in only for **full**-time training: LC - lectures; LW - lab work; S - seminars.

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	Classroom for lectures, equipped by the set of specialized furniture, whiteboard (screen) and technical means for multimedia presentations	Multimedia projector and stable Internet connection
Computer lab	Computer classroom for classes, individual and group consultations, ongoing control and interim attestation equipped with PCs (26), whiteboard (screen) and technical means for multimedia presentations	
Lab-work	Classroom for lab work, individual and group consultations, ongoing control and interim attestation equipped with a set of specialized furniture and technical means for multimedia presentations	Multimedia projector, interactive board, stable Internet connection, software: MS products
Self-studies	Classroom for self-study (might be used for lab work and consultations) equipped with a set of specialized furniture and PCs	

* The premises for students' self-studies are subject to **MANDATORY** mention

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

1. **Basic and Clinical Pharmacology / B. Katzung, S. Masters.** - 16th ed.; Книга на английском языке. - New York: McGraw-Hill, 2024. - 1368 p.: il. - (Lange Medical Books). - ISBN 978-1260463309.

Additional readings:

1. S.B. Fitilev, I.I. Shkrebneva, A.V. Vozzhaev. The Fundamentals of Rational Pharmacotherapy (Problem-Based Method of Teaching Clinical Pharmacology or How to Create Your Own Guideline) (учебное пособие на английском языке). Москва: РУДН, 2017. – 85 с.

Internet (based) sources

- Electronic Library System (ELS) of the RUDN University and third-party ELS, to which university students have access on the basis of concluded contracts:
 - Electronic Library System (ELS) of the RUDN <http://lib.rudn.ru/MegaPro/Web>

- ELS «Университетская библиотека онлайн» <http://www.biblioclub.ru>
 - ELS Юрайт <http://www.biblio-online.ru>
 - ELS «Консультант студента» www.studentlibrary.ru
 - ScienceDirect <https://www.sciencedirect.com/>
 - Springer <https://www.springer.com/gp>
 - Oxford University Press <http://global.oup.com/?cc=ru>
2. Databases and search engines:
- State register of drugs <http://www.drugreg.ru/Bases/WebReestrQuery.asp>
 - Source on pharmacogenetics <http://www.pharmgkb.org/>
 - Source of drug interactions <http://medicine.iupui.edu/flockhart/>

Training toolkit for self- studies to master the course *:

1. The set of lectures on the course «Clinical pharmacology».
2. The laboratory workshop (if any) on the course «Clinical pharmacology».
3. The guidelines for writing a course paper / project (if any) on the course «Clinical pharmacology».
4.

* The training toolkit for self- studies to master the course is placed on the course page in the university telecommunication training and information system under the set procedure

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (GPC-6, GPC-10, PC-2) upon the course study completion are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

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name of department

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**HEAD
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