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

Medical Institute

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

1. THE GOALS OF MASTERING THE DISCIPLINE

The discipline «**Clinical pharmacology**» is included into the speciality programme «Dentistry» of the field 31.05.03 «Dentistry» and is studied in the 10th semester of the 5th year. The discipline is provided by the Department of Pharmacology and Clinical Pharmacology. 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.

The aim 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.

2. REQUIREMENTS to LEARNING OUTCOMES

The mastering of the discipline «**Clinical pharmacology**» is aimed at the formation of the following competencies of students:

Table 2.1. The list of competencies formed by students during the development of the discipline (results of the mastering of the discipline)

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. THE COURSE IN THE HIGHER EDUCATION PROGRAMME STRUCTURE

The course «**Clinical pharmacology**» refers to the Compulsory Disciplines of block 1 «Disciplines (modules)» of the EP HE.

Within the framework of the Educational Program, students also master other disciplines and/or practices that contribute to expected learning outcomes of the course «Clinical pharmacology».

Table 3.1. List of Higher Education Program disciplines that contribute to expected learning outcomes

Compe- tence Code	The competence	Previous Disciplines*	Subsequent disciplines
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 gnatic surgery; Basics of military training; Life safety; Internal medicine; Gerodontics 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, phthysiology; 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	

* - in line with the competence matrix

** - elective disciplines /practice

4. THE DISCIPLINE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the discipline «**Clinical pharmacology**» is equal to **2** credits.

Table 4.1. Types of academic activities during the period of the HE program mastering

Types of academic activities	TOTAL, academic hours (ac.h)	Semesters
		10
Classroom learning, <i>ac.h.</i>	51	51
Lectures (Lec)	-	-
Lab work (Lab)	51	51
Practical/seminar classes	-	-
Self-studies (Self), <i>ac.h.</i>	18	18
Control, <i>ac.h.</i>	3	3
Total workload of the discipline	ac.h.	72
	credits	2

5. THE COURSE MODULES AND CONTENTS

Table 5.1. The content of the discipline and types of academic activities

Module number	Module name	Content of the module (topics)		Type of academic activities
Module 1	General issues of clinical pharmacology.	1.1	Subject and tasks of clinical pharmacology (CP). Clinical research. Principles of evidence-based medicine.	Lab
		1.2	Fundamentals of clinical pharmacokinetics.	Lab
		1.3	Fundamentals of clinical pharmacodynamics.	Lab
		1.4	Interaction of drugs.	Lab
		1.5	Drug safety. Adverse drug reactions.	Lab
Module 2	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.	
		2.2	Clinical and pharmacological approaches to the choice and use of antifungal and antiviral drugs in dental practice.	Lab
		2.3	Clinical and pharmacological approaches to the choice and application of antiseptics and irrigants in dental practice.	Lab
		2.4	Clinical and pharmacological approaches to the choice and application of painkillers in dental practice.	Lab
		2.5	Clinical and pharmacological approaches to the choice and use of anti-inflammatory, anti-allergic drugs and immunomodulators.	Lab
		2.6	Clinical and pharmacological approaches to the choice and use of medicines used in hemostasis disorders (bleeding and thrombosis).	Lab
		2.7	Clinical pharmacology of drugs for the treatment of phosphorus-calcium metabolism disorders.	Lab
		2.8	Clinical and pharmacological approaches to the choice and use of medicines used in urgent and life-threatening conditions.	Lab

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENT

Table 6.1. Logistical and material provision of the discipline.

Classroom for Academic Activity Type	Classroom Equipment	Specialized educational/laboratory equipment, software and materials for the mastering of the discipline (if needed)
Classroom for lectures	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 classroom	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	
Classroom for 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
Classroom for self-study	Classroom for self-study (might be used for lab work and consultations) equipped with a set of specialized furniture and PCs	

7. RECOMMENDED SOURCES for COURSE STUDIES

a) Main reading:

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.**

b) Additional reading:

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

1. 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/>

Learning toolkits for self-studies during the development of the discipline

Methodological guidelines for the implementation and execution of control and independent work on the discipline «Clinical pharmacology».

* - All teaching materials for self-studying of students are placed in accordance with the current procedure on the discipline page in the RUDN LMS TUIS.

8. EVALUATION TOOLKIT AND GRADE SYSTEM FOR ASSESSMENT

Evaluation Toolkit (ET) and a point-rating system (PRS)* for assessment the level of competence formation (part of competencies) based on the results of mastering the discipline «Clinical pharmacology» are presented in the Appendix to this Work Program of the discipline.

* - *ET and PRS are formed on the basis of the requirements of the relevant local regulatory act of the RUDN*

DEVELOPERS:

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