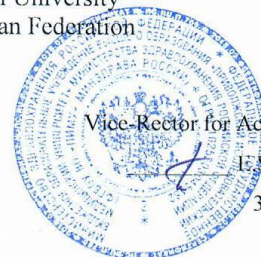


Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

WORKING PROGRAM

Name of the academic discipline: **BASICS OF PHARMACOGENETICS**

Specialty: **33.05.01 PHARMACY**

Qualification: **PHARMACIST**

Department: **GENERAL AND CLINICAL PHARMACOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: 36 **academic hours**

Nizhny Novgorod
2021

The work program was developed in accordance with the Federal State Educational Standard HE - specialty in the specialty 33.05.01 Pharmacy, approved by Order No. 219 of the Ministry of Education and Science of the Russian Federation dated March 27, 2018 (registered with the Ministry of Justice of the Russian Federation on 16.04.2018 No. 50789).


Developers of the working program:

Lovtsova L. V., Doctor of Medical Sciences, academic title-Associate Professor, Head of the Department of General and Clinical Pharmacology.

Sorokina Yu. A., Candidate of Biological Sciences, academic title-Associate Professor, Associate Professor of the Department of General and Clinical Pharmacology.

The program was reviewed and approved at the meeting of the Department (Minutes No. 7 of 09.06.2021)

Head of the Department of General and Clinical Pharmacology,


Doctor of Medical Sciences, Associate Professor _____  L. V. Lovtsova
09.06.2021 (signature)

REVIEWERS:

1. Professor of the Department of Pharmacology and Clinical Pharmacology with a course in Pharmaceutical Technology of the Medical Institute of the Ogarev National Research Mordovian State University of the Ministry of Science and Higher Education of the Russian Federation, Doctor of Medical Sciences, Professor A.V. Siprov.

2. Professor of the Department of Medical Physics and Informatics of the Federal State Budgetary Educational Institution of Higher Education "PIMU" of the Ministry of Health of the Russian Federation, Chairman of the cyclic Methodological Commission for Natural Science Disciplines, Doctor of Biological Sciences, Associate Professor S. L. Malinovskaya.

AGREED

Deputy Head of EMA ph.d. of biology _____  Lovtsova L.V.

09.06.2021

1. The purpose and objectives of mastering the academic discipline basics of pharmacogenetics (hereinafter – the discipline):

1.1. The purpose of mastering the discipline: (*participation in forming the relevant competencies*).

1.2. Tasks of the discipline:

To compile the knowledge on genetic variability and pharmacokinetics and pharmacodynamics

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

Know:

- basic concepts of clinical pharmacogenetics;
- genetic factors affecting the pharmacokinetics of medicinal products (drugs);
- features of pharmacokinetics and pharmacodynamics of drugs depending on the genetic polymorphism of the population.

Be able to:

- analyze the effect of drugs on the totality of their pharmacological properties and the possibility of using drugs for treatment, depending on the genetic polymorphism of the population.

Possess:

- practical experience in providing pharmaceutical information and advice on the release and sale of drugs, taking into account the genetic polymorphism of the population.

2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.

2.1. The discipline basics of pharmacogenetics refers to the additional part (*or the part formed by the participants of educational relations*) of Block 1 (B1. UOO.E. 4) of GEP HE (Academic discipline index).

The discipline is taught in _6th ___ semester/_3rd year of study.

2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:

- *Latin language*
- *Botany*
- *Biology*
- *Chemistry (general and inorganic, physical and colloidal, analytical, organic, biological)*
- *Physiology with basic anatomy*
- *Microbiology*
- *Pathology*

2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:

- *Clinical Pharmacology*
- *Pharmacy management and Economics*

3. Deliverables of mastering the academic discipline and metrics of competence acquisition

Mastering the discipline aims at acquiring the following universal (UC) or/and general professional (GPC) or/and professional (PC) competencies

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				know	be able to	possess
1.	UC-1	able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions	IUC 1.4. Develops and substantiates a strategy for solving a problem situation on the basis of systemic and interdisciplinary approaches.	<ul style="list-style-type: none"> • basic concepts of clinical pharmacogenetics; • genetic factors affecting the pharmacokinetics of medicinal products (drugs); features of pharmacokinetics and pharmacodynamics of medicinal products depending on the genetic polymorphism of the population 	<ul style="list-style-type: none"> • analyze the effect of drugs on the totality of their pharmacological properties and the possibility of using drugs for treatment in the future Based on the genetic polymorphism of the population 	<ul style="list-style-type: none"> • practical experience in pharmaceutical information and consultation during the release and sale of drugs taking into account the genetic polymorphism of the population
2.	PC-3	<u>capable of providing pharmaceutical information and consulting during the release and sale of medicinal products for medical use</u>	IPC-3.1. Provides information and consulting assistance to visitors of a pharmacy organization when choosing medicines IPC-3.2. Informs medical professionals about medicines, their synonyms and	<ul style="list-style-type: none"> • basic concepts of clinical pharmacogenetics; • genetic factors affecting the pharmacokinetics of medicinal products 	<ul style="list-style-type: none"> • of the population. the effect of drugs on the totality of their pharmacological properties and the possibility of using 	<ul style="list-style-type: none"> • practical experience in pharmaceutical information and consultation during the release and sale of drugs taking into account the genetic

			analogues, possible side effects IPC-3.3. Takes a decision on the replacement of the prescribed medicinal product with synonymous or analogous drugs in the prescribed manner based on information about groups of medicinal products and synonyms within the same international non-patent name	(drugs); features of pharmacokinetics and pharmacodynamics of medicinal products depending on the genetic polymorphism	drugs for treatment depending on the genetic polymorphism of the population	polymorphism of the population
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4. Sections of the academic discipline and competencies that are formed when mastering them

No	Competence code	Section name of the discipline	The content of the section in teaching units
	UC-1 (IUC-1.4), PC-3 (IPC-3.1, IPC-3.2, IPC-3.3)	Introduction. Subject and scientific and practical tasks of pharmacogenetics.	Introduction to clinical pharmacogenetics. Methodology of personalized medicine, principles of development, implementation and use of personalized medicine technologies for individualizing the use of medicines in clinical practice. Significance of pharmacogenetic testing. Sources of pharmacogenetic information. Organizational and ethical aspects of clinical pharmacogenetics.
	UC-1 (IUC-1.4), PC-3 (IPC-3.1, IPC-3.2, IPC-3.3)	Genetic factors affecting the pharmacokinetics of drugs	Stages of pharmacokinetics, control of absorption, distribution, biotransformation and excretion of drugs by the corresponding genes. Genetic polymorphisms responsible for drug pharmacokinetics. Racial, ethnic, and sexual characteristics of drug pharmacokinetics.
	UC-1 (IUC-1.4), PC-3 (IPC-3.1, IPC-3.2, IPC-3.3)	Genetic factors affecting the pharmacodynamics of drugs	Genetic polymorphisms responsible for the pharmacodynamics of drugs. Changes in the pharmacological response in polymorphism of target organ tissue cells. Racial, ethnic and sexual characteristics of drug pharmacodynamics
	UC-1 (IUC-1.4), PC-3 (IPC-3.1, IPC-3.2, IPC-3.3)	Pharmacogenetics of psychotropic drugs	polymorphisms responsible for the pharmacokinetics and pharmacodynamics of neurotropic drugs that regulate the functions of the peripheral nervous system and the functions of the central nervous system. Pharmacogenetic testing.
	UC-1 (IUC-	Pharmacogene	polymorphisms responsible for the pharmacokinetics and

1.4), PC-3 (IPC-3.1, IPC-3.2, IPC- 3.3)	tic bases of differentiated use of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	pharmacodynamics of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes. Pharmacogenetic testing.
UC-1 (IUC- 1.4), PC-3 (IPC-3.1, IPC-3.2, IPC- 3.3)	Pharmacogenetic bases of differentiated use of antimicrobial and antiparasitic drugs	polymorphisms responsible for the pharmacokinetics and pharmacodynamics of antibacterial chemotherapeutic agents, synthetic antibacterial agents of different chemical structures (derivatives of quinolone, nitrofurantoin etc.), antiviral and antifungal drugs.

5. Volume of the academic discipline and types of academic work

Type of educational work	Labor intensity		Labor intensity (AH) in semesters
	volume in credit units (CU)	volume in academic hours (AH)	6 semester
Classroom work, including	0,61	22	22
Lectures (L)	0,17	6	6
Laboratory practicum (LP)*			
Practicals (P)	0,44	16	16
Seminars (S)			
Student's individual work (SIW)	0,39	14	14
Mid-term assessment credit	Included in the final class structure		
TOTAL LABOR INTENSITY	1	36	36

6. Content of the academic discipline

6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					
		L	LP	P	S	SIW	total
	Introduction. Subject and scientific and practical tasks of pharmacogenetics.	2	-	-		2	4
	Genetic factors affecting the pharmacokinetics of drugs	2	-	-		2	4
	Genetic factors affecting the pharmacodynamics of drugs	2	-	-		2	4
	Pharmacogenetics of	-	-	4		2	6

	psychotropic drugs						
	Pharmacogenetic bases of differentiated use of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	-	-	6		2	8
	Pharmacogenetic bases of differentiated use of antimicrobial and antiparasitic drugs Credit.	-	-	6		4	10
	TOTAL	6	-	16		14	36

* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student’s individual work.

6.2. Thematic schedule of educational work types:

6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH
		6 semester
	Introduction. Subject and scientific and practical tasks of pharmacogenetics.	2
	Genetic factors affecting the pharmacokinetics of drugs	2
	Genetic factors affecting the pharmacodynamics of drugs	2
	TOTAL (total - 6AH)	6

6.2.2. The thematic plan of laboratory practicums (*if this type of classes is stipulated in the curriculum*)

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH
		6 semester
	Pharmacogenetics of psychotropic drugs	4
	Pharmacogenetic bases of differentiated use of drugs that affect the functions of the digestive system	2
	Pharmacogenetic bases of differentiated use of drugs that affect metabolic processes, inhibit inflammation and affect immune processes	4
	Pharmacogenetic bases of differentiated use of antimicrobial and antiparasitic drugs Credit.	6

TOTAL (total – 16 AH)	16
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6.2.4. Thematic plan of seminars (*if this type of classes is stipulated in the curriculum*)

6.2.5. Types and topics of student's individual work (SIW)

№ n /	a Section of the discipline	Types and topics of SIW *	Volume in AC
			6 semester
1.	Subject and scientific and practical tasks of pharmacogenetics	Work with literature sources; preparation for classes in an interactive form; work with electronic educational resources (SDS, EBS, etc.) Presenting a project on the topic: - "The history of the formation of pharmacogenetics as a science"	2
2.	Genetic factors affecting the pharmacokinetics of medicines	Work with literature sources; preparation for interactive classes; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "The importance of pharmacogenetic testing for rational dosage of medicines".	2
3.	Genetic factors affecting the pharmacodynamics of medicinal products	Work with literature sources; preparation for interactive classes; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "Genetic polymorphism of target organ cells".	2
4.	Pharmacogenetic-foundations of differentiated use of neurotropic drugs	Work with literature sources; preparation for interactive classes; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "Pharmacogenetics in psychopharmacology. Pharmacogeneticbases of differentiated use of psychotropic drugs".	2
5.	5 Pharmacogenetic-foundations of differentiated use of medicines that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	Work with literature sources; prepare for classes in an interactive form; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "Pharmacogeneticbases of differentiated use of steroid and nonsteroidal anti-inflammatory drugs".	2
6.	6 Pharmacogeneticbases of differentiated application of antimicrobial and antiparasitic drugs. Credit	Work with literature sources; preparation for classes in an interactive form; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "Pharmacogeneticbases of differentiated use	4

		of antibiotics, antiviral and antifungal drugs".	
		TOTAL	14

7. Types of assessment formats for ongoing monitoring and mid-term assessment

№ n /	№ a Semester	number Control forms	Name of the discipline section	Evaluation	
				types	number of q
1.	6	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Introduction. Subject and scientific and practical tasks of pharmacogenetics	Tasks in the test form	fre
				Situational tasks	
				Questions for the test	
				Project	
2.	6	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Genetic factors affecting the pharmacokinetics of medicinal products	Tasks in the test form	fre
				Situational tasks	
				Questions for credit	
				Project	
3.	6	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Genetic factors affecting the pharmacodynamics of medicinal products	Tasks in the test form	fre
				Situational tasks	
				Questions for credit	
				Project	
4.	6	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Pharmacogeneticbasesof differentiated use of neurotropic drugs	Tasks in test form	fre
				Situational tasks	
				Questions for credit	
				Project	
5.	6	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Pharmacogeneticbasesof differentiated use of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	Tasks in the test form	fre
				Situational tasks	
				Questions for the test	
				Project	
6.	6	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Pharmacogeneticbasesof differentiated use of antimicrobial and antiparasitic drugs. Test	form Assignments	fre
				Situational tasks	
				Test questions	
				Project	

Note: *CIW - control of the student's independent work, CAT - control of the current topic

8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)

8.1. Key literature references

№ n /	Name according to bibliographic requirements	Number of copies	
		Departme nt	librar y
1.	Kharkevitch D. A.	5	49

	Pharmacology : textbook for medical students : translation of Russian textbook, 12th edition, revised and improved / D. A. Kharkevitch. – 2nd ed. – М. : ГЭОТАР-Медиа, 2019. – 680 p. : il. – ISBN 978-5-9704-4985-1. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=217114&idb=0		
2	Alyautdin, R. N. Pharmacology : workbook. 1 / R. N. Alyautdin, N. G. Bondarchuk, D. A. Enikeeva ; Alyautdin, R. N. ; Enikeeva D. A. ; Bondarchuk N. G. – М. : ГЭОТАР-Медиа, 2010. – 252 с. : мяг. – ISBN 978-5-9704152-8-3. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=67103&idb=0	1	

8.2. Further reading

№ n /	Name according to bibliographic requirements	Number of copies	
		Department	library
1	Basic & clinical pharmacology / B. G. Katzung ; Katzung B. G. – 10th ed. – PK and PDton : McGraw-Hill, 2007. – 1179 с. : ил. мяг. – ISBN 978-0-07-126093-0. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=33926&idb=0	1	
2	Color atlas of pharmacology / D. Bieger, L. Hein, H. Lullmann, K. Mohr ; Lullmann H. ; Mohr K. ; Hein L. ; Bieger D. – 3rd ed. – Stuttgart : Thieme, 2005. – 402 с. : ил. мяг. – ISBN 3-13-781703-X. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=32972&idb=0	1	
3	Sorokina, Y. A. General pharmacology of cholinergic drugs : tutorial / Y. A. Sorokina, A. L. Barsuk, G. V. Rudakova. – N. Novgorod : Gladkova O. V., 2022. – 1 файл (6.66 Мб). – ISBN 978-5-93530-582-6. – Текст : электронный. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=231339&idb=0	100	
4	Sorokina, Y. A. General pharmacology of adrenergic drugs : tutoria / Y. A. Sorokina, A. L. Barsuk, G. V. Rudakova. – N. Novgorod : Gladkova O. V., 2022. – 1 файл (2.15 Мб). – ISBN 978-5-93530-583-3. – Текст : электронный. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=231337&idb=0	100	
5	Сорокина, Ю. А. Prescription writing = Выписывание рецептов : учебное пособие / Ю. А. Сорокина, А. Л. Барсук, Г. В. Рудакова. – Н. Новгород : Ремедиум Приволжье, 2020. – 1 файл (1.57 Мб). – ISBN 978-5-906125-78-1. – Текст : электронный. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=197653&idb=0	100	
6	General pharmacology of cardiovascular drugs = Фармакология лекарственных средств, влияющих на сердечно-сосудистую систему : tutorial / ed. by Yu. A. Sorokina. – Н. Новгород : Гладкова О. В., 2021. – 104 p. – ISBN 978-5-93530-560-4. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=216716&idb=0	100	

8.3. Electronic educational resources for teaching academic subjects

8.3.1. Internal Electronic Library System of the University (IELSU)

Name of the electronic resource	Brief description (content)	Access conditions	Number of users
Internal Electronic Library System (EBS)	Works of the university's	From any computer and mobile device using an individual login	Not restricted

http://nbk.pimunn.net/MegaPro/Web	teaching staff: textbooks, study guides, problem collections, methodological manuals, laboratory works, monographs, collections of scientific papers, scientific articles, dissertations, dissertation abstracts, patents	and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	
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8.3.2. Electronic educational resources acquired by the University

No	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
	EBS " Student's Consultant " (Electronic database "Student's Consultant". Database " Medicine. Healthcare (VO) and " Medicine. Healthcare (SPE)") http://www.studmedlib.ru	Educational literature, additional materials (audio, video, interactive materials, test tasks) for higher medical and pharmaceutical education	From any computer and mobile device using an individual username and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	<i>unlimited</i>
	Database " Doctor's Consultant. Electronic Medical Library" https://www.rosmedlib.ru	National guidelines, clinical guidelines, training manuals, monographs, atlases, pharmaceutical reference books, audio and video materials, ICD-10 and ATX	From any computer and mobile device using an individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	<i>unlimited</i>
	Electronic library system "Bookup" https://www.books-up.ru	Educational and scientific medical literature of Russian publishing houses, including translations of foreign publications.	from any computer and mobile device using an individual login and password;	<i>unlimited</i>

		Within the framework of the "Big Medical Library" project, publications of participating universities are available	access is automatic from university computers. Publications from the "My books" section are available for reading. Access mode: http://nbk.pimunn.net/MegaPro/Web	
	URAIT Educational Platform https://urait.ru	https://urait.ru A collection of publications on psychology, ethics, and conflict	management from any computer or mobile device using an individual username and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	<i>unlimited</i>
	Electronic periodicals in the database "Scientific Electronic Library eLibrary" https://elibrary.ru	Electronic medical journals	From university computers. Access mode: https://elibrary.ru	<i>unlimited</i>
	Integrated Information and library system (IBS) of the scientific and educational medical cluster of the Volga Federal District – "Srednevolzhsky" (contract on a free basis)	Electronic copies of scientific and educational publications from the collections of libraries participating in the scientific and educational medical cluster of the Volga Federal District "Srednevolzhsky"	Access using an individual username and password from any computer or mobile device. Access mode: websites of libraries participating in the project	<i>unlimited</i>
	Electronic reference and legal system "Consultant Plus" (contract on a free basis) http://www.consultant.ru	Regulatory documents regulating the activities of medical and pharmaceutical institutions	From the computers of the scientific library. Access mode: http://www.consultant.ru/He	<i>unlimited</i>
	National Electronic Library (NEB) (contract on a free basis) http://h3b.pf	Electronic copies of publications (including scientific and educational ones)	Scientific and educational works that have not been	<i>unlimited</i>

		on a wide range of knowledge	reprinted in the last 10 years are publicly available. Works restricted by copyright – from the computers of the scientific library. Access mode: http://нэб.рф	
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8.3.3 Open access resources

№	Name of the electronic resource	Brief description (content)	Access conditions
	PubMed https://www.ncbi.nlm.nih.gov/pubmed	Search engine of the National Library of Medicine of the USA for the databases "Medline", "PreMedline"	From any computer or mobile device. Access mode: https://www.ncbi.nlm.nih.gov/pubmed
	Directory of Open Access Journals http://www.doaj.org	Directory for open access to a full-text collection of periodicals	from any computer or mobile device. Access mode: http://www.doaj.org
	Directory of open access books (DOAB) http://www.doabooks.org	A directory of open access to a full-text collection of scientific books	from any computer or mobile device. Access mode: http://www.doabooks.org

9. Material and technical support for mastering an academic discipline

9.1. List of premises for classroom activities for the discipline

For conducting lectures on the basis of the academic building No. 2 (BFK), there are:

- 2 lecture halls.

For conducting practical classes on the basis of the educational building No. 2 (BFK), there are:

- 6 study rooms with an area of 36,8, 26, 23,6, 21,2, 21,2, 21 m².

9.2. List of equipment for classroom activities for the discipline

Name	quantity
Based on academic building No. 2:	
Multimedia projectors:	
- Epson EMP-S3	1
-Epson	1
-BEAQMS	1
Laptops:	
- Fujitsu Siemens	1
- Lenovo	1
- Lenovo Idea Pad	1
- Lenovo Think Book	2
LCD TV	4

Screens	3
Whiteboards	5
Marker boards	4
Stands:	
- on the organization of the educational process at the department	1
-pharmacodynamics and pharmacokinetics of medicines	16

9.3. A set of licensed and freely distributed software, including domestic production

Item no.	Software	number of licenses	Type of software	Manufacturer	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovich	1960	2471/05-18 from 28.05.2018
2	MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year.	220	Office Application	LLC "NEW CLOUD TECHNOLOGIES"	283	without limitation, with the right to receive updates for 1 year.
3	LibreOffice		Office Application	The Document Foundation	Freely distributed software	
4	Windows 10 Education	700	Operating systems	Microsoft	Azure Dev Tools for Teaching Subscription	
5	Yandex. Browser		Browser	«Yandex»	3722	
6	Subscription to MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia	170	Office Application	Microsoft		23618/HN10030 LLC "Softline Trade" from 04.12.2020

10. List of changes to the working program (to be filled out by the template)

Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation
(FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of
Name of the department

CHANGE REGISTRATION SHEET

working program for the academic discipline
NAME OF THE ACADEMIC DISCIPLINE

Field of study / specialty / scientific specialty: _____
(code, name)

Training profile: _____
(name) - for master's degree programs

Mode of study: _____
full-time/mixed attendance mode/extramural

Position	Number and name of the program section	Contents of the changes made	Effective date of the changes	Contributor's signature
1				

Approved at the department meeting
Protocol No. _____ of _____ 20__

Head of the Department

department name, academic title

signature

print name