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: **INFORMATION SUPPORT FOR THE MEDICINE LIFECYCLE**

Specialty: **33.05.01 PHARMACY**

Qualification: **PHARMACIST**

Department: **MANAGEMENT AND ECONOMICS OF PHARMACY AND PHARMACEUTICAL TECHNOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **180 academic hours**

Nizhny Novgorod
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 33.05.01 PHARMACY, approved by Order by Order of the Ministry of Science and Higher Education of the Russian Federation No. 219 of March 27, 2018.

Developers of the working program:
Maxim Alekseevich Mishchenko, PhD in pharmaceutical sciences, associate professor of the Department of management and economics of pharmacy and pharmaceutical technology.

The program was reviewed and approved at the department meeting (protocol No. 9 of 29.04.2021).

Acting head of the Department,
PhD in pharmaceutical sciences _____ I.V. Spitskaya
(signature)

29.04.2021

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

29.04.2021

1. The purpose and objectives of mastering the academic discipline INFORMATION SUPPORT FOR THE MEDICINE LIFECYCLE (hereinafter – the discipline):

1.1. The purpose of mastering the discipline – participation in forming the following competencies:

- universal competencies (UC-1 (1.2, 1.3));
- general professional competencies (GPC-1 (1.4), GPC-6 (6.1-6.4);
- professional competencies (PC-4 (4.4), PC-9 (9.2)).

1.2. Tasks of the discipline:

1. Acquaintance of students with the specialty 33.05.01 Pharmacy, pharmaceutical industry, sphere of circulation of medicines.
2. Study of the basic concepts and definitions in the field of circulation of medicines.
3. Students receive basic theoretical and applied knowledge about the essence, methods, tools, principles of work in the pharmaceutical industry, as well as in preparing students for the implementation of tasks in pharmaceutical activities.
4. Formation of students' knowledge about the life cycle of medicines and information support of all its stages.
5. Overview of the main information technologies used at each stage of the life cycle of medicines.

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

Know:

- basic principles and methods of scientific and informational activity
- principles of selection of professional information about medicines from possible sources of information
- have an idea of national and global information resources in the field of healthcare and pharmacy
- fundamentals of creating information systems and using new information technologies for processing pharmaceutical information
- basic principles of research planning, competent description of statistical data, selection of criteria for statistical analysis, correct interpretation of its results
- methodology of analysis and processing of pharmaceutical information on the results of research in the field of pharmacy
- the main terms used in the analysis and processing of research results, as well as in the presentation of their results
- the main application software products used in the analysis and processing of pharmaceutical information
- modern information technologies in interaction with subjects of drug production
- specialized software for mathematical processing of data observations and experiments in solving problems of professional activity
- automated information systems in the internal processes of a pharmaceutical organization, as well as for interactions with customers and suppliers
- modern aspects of drug safety control and the pharmacovigilance system
- classification of adverse reactions, risk factors for their occurrence, features of pre- and post-registration studies of drug safety
- approaches to the organization of the pharmacovigilance system at the level of a pharmacy organization and the algorithm of action of a pharmaceutical specialist in case of detection of adverse reactions in real practice
- the main terms used in conducting pharmacoeconomical and pharmacoepidemiological

studies

– sources and levels of evidence-based medicine data

– modern technical means and digital technologies used in professional activities by pharmaceutical specialists at all stages of the circulation of medicinal products

– modern medical and pharmaceutical information systems and databases used in the professional activities of pharmaceutical specialists at all stages of the circulation of medicines

Be able to:

– to use specialized information resources

– to use in practice various methods to study the information needs of specialists and the population

– to search for pharmaceutical information and information about medicines using modern information search engines

– to analyze the quality of information about medicines for specialists and consumers, taking into account the requirements of the law and ethical standards

– to evaluate the quality of information and advertising of medicines

– to select the necessary amount of information about medicines required for specialists and patients

– to plan scientific research, describe statistical data, interpret research results

– to analyze and process pharmaceutical information based on the results of research in the field of pharmacy

– to apply applied software products used in the analysis and processing of pharmaceutical information

– to apply modern information technologies in interaction with subjects of circulation of medicines

– to carry out an effective search for information necessary to solve the tasks of professional activity using legal reference systems and professional pharmaceutical databases

– to use specialized software for mathematical processing of observation and experimental data in solving the tasks of professional activity

– to use automated information systems in the internal processes of a pharmaceutical organization, as well as for interactions with customers and suppliers

– identify and document adverse reactions, identify risk factors for their occurrence,

– organize the functioning of the pharmacovigilance system at the level of a pharmacy organization and develop an algorithm for the action of a pharmaceutical specialist in case of adverse reactions in real practice

– select a drug among analogues and synonyms based on pharmacoeconomical analysis

– use the results of pharmacoeconomical research to improve the quality of pharmaceutical care to the population

– apply modern technical means and digital technologies used in the professional activity of pharmaceutical specialists at all stages of the circulation of medicines

– apply modern medical and pharmaceutical information systems and databases used in the professional activity of pharmaceutical specialists at all stages of the circulation of medicines

Possess:

– skills of search and selection of pharmaceutical information in information retrieval systems for solving professional tasks

– by methods of processing text and graphic information using a computer

– Internet techniques for performing professional tasks

– principles of research planning, competent description of statistical data, selection of criteria for statistical analysis, correct interpretation of its results

– methodology of analysis and processing of pharmaceutical information on results of research in the field of pharmacy

– main terms used in the analysis and processing of research results, as well as in the

presentation of their results

– skills of working in the main applied software products used in the analysis and processing of pharmaceutical information

– skills of using modern information technologies in interaction with subjects of circulation of medicines

– skills of searching for information necessary to solve the tasks of professional activity, using legal reference systems and professional pharmaceutical databases

– skills of working with specialized software for mathematical processing of observational and experimental data in solving professional tasks

– skills of working with automated information systems in the internal processes of a pharmaceutical organization, as well as for interactions with customers and suppliers

– skills of establishing and documenting, in accordance with the procedure established by law, on the non-compliance of a medicinal product for medical use with the established requirements or on the non-compliance of data on the effectiveness and safety of a medicinal product with data on a medicinal product contained in the instructions for its use

– skills of working with information obtained from various sources (clinical research data, drug form, standards for the use of drugs, printed reference books, electronic databases, Internet resources)

– skills of using modern technical means and digital technologies used in professional activity by pharmaceutical specialists at all stages of drug circulation

– skills of using modern medical and pharmaceutical information systems and databases used in professional activity by pharmaceutical specialists at all stages of drug circulation

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 refers to the core part of Block 1 of GEP HE (B1.C.25).

The discipline is taught in 3-4 semesters/2 year of study.

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

- introduction to the specialty;
- history of pharmacy;
- economic theory;
- mathematics;
- computer science;
- general and inorganic chemistry;
- physiology with the basics of anatomy;
- pharmaceutical propaedeutic practice.

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

- pharmacology;
- pharmaceutical technology;
- pharmaceutical chemistry;
- information technologies in pharmacy;
- medical and pharmaceutical merchandising
- legal basics of a pharmacist;
- pharmaceutical marketing;

– pharmaceutical logistics;
– pharmaceutical management;
– clinical pharmacology with the basics of pharmacotherapy;
– biotechnology;
– project management in pharmacy;
– promotion of goods on the pharmaceutical market;
– organization of drug supply to the population;
– basics of entrepreneurial activity in pharmacy;
– state registration and examination of medicines;
– state control and supervision in the field of drug circulation;
– pharmaceutical counseling and information (internship);
– practice in management and economics of pharmaceutical organizations (industrial practice).

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

№	Compe-tence 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 realize critical analysis of problem situations based on a systematic approach, develop strategy actions	UC-1.2. Identifies gaps in the information needed to solve a problem situation, and designs processes for their elimination UC-1.3. Critically assesses reliability of information sources, works with conflicting information from different sources	– basic principles and methods of scientific and informational activity – principles of selection of professional information about medicines from possible sources of information – have an idea of national and world information resources in the field of healthcare and pharmacy – basics of creating information systems and using new information technologies for processing pharmaceutical information – documentary sources of pharmaceutical information, classifications, the	– to use specialized information resources – to use in practice various methods to study the information needs of specialists and the population – to search for pharmaceutical information and information about medicines using modern information search engines – to analyze the quality of information about medicines for specialists and consumers, taking into account the requirements of the law and ethical standards – to evaluate the quality of information and advertising of	– skills of search and selection of pharmaceutical information in information search systems for solving professional tasks – by methods of processing text and graphic information using a computer – Internet techniques for performing professional tasks

				main types of pharmaceutical information, their purpose and features – general principles and methods of information retrieval – forms, methods and means of pharmaceutical information and advertising	medicines – select the necessary amount of information about medicines required for specialists and patients	
2.	GPC-1	Able to use basic biological, physical-chemical, chemical, mathematical methods for the development, research and examination of medicines, the manufacture of medicinal products	GPC-1.4. Applies mathematical methods and performs mathematical processing of data obtained during the development of medicines, as well as research and examination of medicines and medicinal plant raw materials	– basic principles of research planning, competent description of statistical data, selection of criteria for statistical analysis, correct interpretation of its results – methodology of analysis and processing of pharmaceutical information based on the results of research in the field of pharmacy – the main terms used in the analysis and processing of research results, as well as in the presentation of their results – the main applied software products used in the analysis and processing of pharmaceutical information	– plan scientific research, describe statistical data, interpret research results – analyze and process pharmaceutical information based on the results of research in the field of pharmacy – apply applied software products used in the analysis and processing of pharmaceutical information	– principles of research planning, competent description of statistical data, selection of criteria for statistical analysis, correct interpretation of its results – by the methodology of analysis and processing of pharmaceutical information based on the results of research in the field of pharmacy – the main terms used in the analysis and processing of research results, as well as in the presentation of their results – by skills in the main applied software products used in analysis and processing of pharmaceutical information
3.	GPC-6	Able to understand the principles of modern information technologies and use them to solve the tasks of professional activity	GPC-6.1. Applies modern information technologies in the interaction with parties to the circulation of medicinal products taking into account the requirements of information security GPC-6.2. Performs an effective search for information necessary	– modern information technologies in interaction with subjects of drug circulation – specialized software for mathematical processing of observational and experimental data	– apply modern information technologies for solving professional tasks – search for information, necessary for solving problems of professional activity, using legal reference	– skills in applying modern information technologies to solve professional problems – skills in searching for information, necessary for solving problems of professional

			to solve the tasks of professional activity using legal reference systems and professional pharmaceutical databases GPC-6.3. Uses specialized software for mathematical processing of observational and experimental data in solving problems of professional activity GPC-6.4. Applies automated information systems in the internal processes of the pharmaceutical organization, as well as for interactions with customers and suppliers	in solving professional tasks – automated information systems in the internal processes of a pharmaceutical organization, as well as for interactions with customers and suppliers	systems and professional pharmaceutical databases – use automated information systems in the internal processes of a pharmaceutical organization, as well as for interaction with customers and suppliers	activity, using legal reference systems and professional pharmaceutical databases – skills in using automated information systems in internal processes of pharmaceutical organization and for interaction with clients and suppliers
4.	PC-4	Able to participate in monitoring the quality, effectiveness and safety of medicines and medicinal plant raw materials	PC-4.4. Informs in accordance with the procedure established by law about the non-compliance of the medicinal product for medical use with the established requirements or about the non-compliance of the data on the effectiveness and safety of the medicinal product with the data on the medicinal product contained in the instructions for its use	– modern aspects of drug safety control and pharmacovigilance system – classification of adverse reactions, risk factors for their occurrence, features of pre- and post-registration studies of drug safety – approaches to the organization of the pharmacovigilance system at the pharmacy organization level and the algorithm of action of a pharmaceutical specialist in case of detection of adverse reactions in real practice	– identify and document adverse reactions, identify risk factors for their occurrence, – organize the functioning of the pharmacovigilance system at the pharmacy organization level and develop an algorithm for the action of a pharmaceutical specialist in case of adverse reactions in real practice	– skills of establishing and documenting in accordance with the procedure established by law on the non-compliance of a medicinal product for medical use with the established requirements or on the non-compliance of data on the effectiveness and safety of a medicinal product with data on a medicinal product contained in the instructions for its use
5.	PC-9	Able to solve tasks of professional activities in the transfer of medicines through pharmaceutical and medical organizations	PC-9.2. Performs pharmaceutical information and consulting during the sale, release and transfer of medicines for medical use	– the main terms used in conducting pharmacoeconomical and pharmacoepidemiological studies – sources of obtaining and levels of evidence-based medicine data	– to select a drug among analogues and synonyms based on pharmacoeconomical analysis – to use the results of pharmacoeconomical research to improve the	– skills of working with information obtained from various sources (clinical research data, drug form, standards for the use of drugs, printed reference books, electronic databases, Internet

					quality of pharmaceutical care to the population	resources)

4. Sections of the academic discipline and competencies that are formed when mastering them

№	Competence code	Section name of the discipline	The content of the section in teaching units
1	UC-1 GPC-1 GPC-6 PC-4 PC-9	Information support for the medicine lifecycle	The concept of the life cycle of medicines Information technologies in lifecycle management of medicines Quality assessment of pharmaceutical information Analysis and processing of pharmaceutical information Post-registration drug assessment: pharmacoepidemiology Post-registration drug assessment: pharmacoeconomics Post-registration assessment of drugs: pharmacovigilance Basics of state regulation of pharmaceutical information, which is advertising

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)	3	4
Classroom work, including	2,44	88	44	44
Lectures (L)	0,56	20	10	10
Laboratory practicum (LP)*	Laboratory practicums are not stipulated			
Practicals (P)	1,89	68	34	34
Seminars (S)	Seminars are not stipulated			
Student's individual work (SIW)	1,55	56	28	28
Mid-term assessment	1	36		36
credit/exam *(specify the type)*				exam
TOTAL LABOR INTENSITY	5	180	72	108

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
1	Information support for the medicine lifecycle	20		68		56	144
2	Exam						36
	TOTAL	20		68		56	180

* - 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	
		3	4
1.	The concept of the life cycle of medicines	4	
2.	Information technologies in life cycle management	2	
3.	Quality assessment of pharmaceutical information	2	
4.	Analysis and processing of pharmaceutical information	2	
5.	Post-registration drug assessment: pharmacoepidemiology		2
6.	Post-registration drug assessment: pharmacoeconomics		4
7.	Post-registration drug assessment: pharmacovigilance		2
8.	Basics of state regulation of pharmaceutical information that is advertising		2
	TOTAL (total – 20 AH)	10	10

6.2.2. The thematic plan of laboratory practicums
Laboratory practicums are not stipulated.

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH	
		3	4
1.	The concept of the life cycle of medicines	8	
2.	Information technologies in life cycle management	8	
3.	Quality assessment of pharmaceutical information	8	
4.	Post-registration drug assessment: pharmacoepidemiology	10	
5.	Post-registration drug assessment: pharmacoeconomics		14
6.	Post-registration drug assessment: pharmacovigilance		8
7.	Basics of state regulation of pharmaceutical information that is advertising	8	8
8.	Credit	4	4
	TOTAL (total – 68 AH)	34	34

6.2.4. Thematic plan of seminars
Seminars are not stipulated.

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

№	Types and topics of SIW	Volume in AH	
		3	4
1	Working with literature and other sources of information on the studied section	18	18
2	Assignments in the form of reports and speeches	4	4
3	Working with electronic educational resources	6	6
	TOTAL (total – 56 AH)	28	28

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

№	Semester No.	Types of control	Name of section of academic discipline	Assessment formats		
				types	number of test questions	number of test task options
1	2	3	4	5	6	7
1.	3	Current	Information	Test work	5	5

		monitoring: Control of mastering the topic Monitoring the student's individual work	support for the medicine lifecycle			
2.	4	Current monitoring: Control of mastering the topic Monitoring the student's individual work	Information support for the medicine lifecycle	Test work	5	5
3.	8	Mid-term assessment		Exam	3	20

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

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	The system of legislative regulation of circulation of medicines: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 77 p.	electronic resource	
2	Fundamentals of state legislation on manufacturing of medicines: Textbook / M M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 56 p.	electronic resource	
3	Fundamentals of state legislation on pharmaceutical activities: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 50 p.	electronic resource	
4	The concept of good practices in the pharmaceutical regulatory system: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 57 p.	electronic resource	
5	Fundamentals of pharmaceutical economics: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 125 p.	electronic resource	
6	Prices and pricing in the pharmaceutical market: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 77 p.	electronic resource	
7	Product policy of a pharmaceutical organization:	electronic resource	

	Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 90 p.	
8	Fundamentals of planning economic indicators: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 78 p.	electronic resource
9	Planning of trade turnover of a pharmaceutical organization: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 78 p.	electronic resource
10	Planning of distribution costs of a pharmaceutical organization: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 60 p.	electronic resource
11	Income and profit planning of a pharmaceutical organization: Textbook / M.A. Mishchenko, E.V. Shalenkova, A.A. Ponomareva, N.N. Chesnokova, S.V. Kononova. – Nizhny Novgorod, 2021. – 70 p.	electronic resource
12	Accounting of financial and economic activities of a pharmacy organization: Textbook / M.A. Mishchenko, S.V. Kononova, N.N. Chesnokova, A.A. Ponomareva, E.V. Shalenkova. – Nizhny Novgorod, 2022. – 74 p.	electronic resource
13	Specific issues of accounting for the property of a pharmacy organization: Textbook / M.A. Mishchenko. – Nizhny Novgorod, 2022. – 50 p.	electronic resource
14	Basic principles of accounting of settlements with the personnel of a pharmacy organization: Textbook / M.A. Mishchenko. – Nizhny Novgorod, 2022. – 50 p.	electronic resource
15	The tax concept and tax management of pharmaceutical organizations: Textbook / M.A. Mishchenko. – Nizhny Novgorod, 2022. – 52 p.	electronic resource

8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	The medicine lifecycle concept: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 80 p.	electronic resource	
2	Information technologies in the medicine lifecycle management: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 99 p.	electronic resource	
3	Evaluating the quality of pharmaceutical information: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 98 p.	electronic resource	
4	Analysis and processing of pharmaceutical information: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 95 p.	electronic resource	

5	Post-marketing evaluation of medicinal products – pharmacoepidemiology: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 53 p.	electronic resource
6	Post-marketing evaluation of the medicinal products – pharmacoeconomics: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 107 p.	electronic resource
7	Post-marketing evaluation of medicinal products – pharmacovigilance: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 70 p.	electronic resource
8	Fundamentals of the state regulation of pharmaceutical information that is advertising: Textbook / M.A. Mishchenko, S.V. Kononova, A.A Ponomareva. – Nizhny Novgorod, 2020. – 109 p.	electronic resource

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*
1	Internal electronic library system (IELS) http://nbk.pimunn.net/MegaPro/Web	Works of university teaching staff: textbooks, manuals, collections of tasks, teaching aids, laboratory works, monographs, collections of scientific works, scientific articles, dissertations, abstracts of dissertations, patents	From any computer and mobile device with individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	Not limited

8.3.2. Electronic educational resources acquired by the University

№	*Name of the electronic resource*	*Brief description (content)*	*Access conditions*	*Number of users*
1	Electronic legal reference system "Consultant Plus" (contract for free) http://www.consultant.ru	Regulatory documents regulating the activities of medical and pharmaceutical institutions From the scientific library computers	Access mode: http://www.consultant.ru/	Not limited Term of validity: Unlimited

8.3.3 Open access resources

№	*Name of the electronic resource*	*Brief description (content)*	*Access conditions*
1	PubMed https://www.ncbi.nlm.nihgov/pubmed	US National Library of Medicine search engine for Medline, PreMedline	From any computer and mobile device. Access mode:

		databases	https://www.ncbi.nlm.nihgov/pubmed Not limited
2	Scopus database www.scopus.com	International abstract database of scientific citation from university computers, from any computer by individual login and password	Access mode: www.scopus.com Not limited
3	Web of Science Core Collection https://www.webofscience.com	International abstract database of scientific citation. From university computers, from any computer by individual login and password.	Access mode: https://www.webofscience.com Not limited

9. Material and technical support for mastering an academic discipline

9.1. List of premises for classroom activities for the discipline

1. Classes for lectures and practical classes, equipped with multimedia and other means of training, allowing the use of simulation technologies, with standard sets of professional models (sets of protocols of clinical trials, formulary lists of LPU, price lists of distribution companies, sets of quality of life questionnaires), allowing students to master the skills and abilities, provided by professional activity, individually.

2. Simulation center "Educational pharmacy", equipped with simulation technics, which imitates the activity of pharmacy and its subdivisions (acceptance of goods, storage of goods, dispensing, pharmaceutical expertise of receipt) in the amount that allows students to master skills, provided by professional activity individually.

3. Rooms for students' independent work, equipped with computers with the ability to connect to the Internet and access to the electronic information and educational environment of the University.2.

9.2. List of equipment for classroom activities for the discipline

1. Multimedia complex (laptop, projector, screen, TV)
2. Computer class (15 computers) with installed applications and Internet access.

9.3. List of software

1. Online event platform "Webinar"
2. Yandex Browser
3. Reference system "Consultant Plus"

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