

Summary of the working program of the academic discipline

« Pharmacognosy »

(name of the academic discipline)

General Educational Program of higher education (specialist's degree programs)

33.05.01 “Pharmacy”

Department: Pharmaceutical Chemistry and Pharmacognosy

1. The purpose of mastering the discipline: participation forming the relevant competencies (UC-1, UC-4), general professional (GPC-1, GPC -6) and professional (PC-4, PC-5) competencies

2. Position of the academic discipline in the structure of the General Educational Program (GEP).

2.1. The discipline refers to the core part of Block 1 of GEP HE. The discipline is taught in 5,6,7 semester of study.

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 realize critical analysis of problem situations based on a systematic approach, develop strategy actions	UC-1.1. Analyzes the problem situation as a system identifying its components and connections between them UC-1.3. Critically assesses reliability of information sources, works with conflicting information from different sources	<ul style="list-style-type: none"> methodology of abstract thinking for systematization of processes and construction of cause-and-effect relationships; modern theoretical and experimental methods for the implementation of own and borrowed results of scientific research into practice. 	<ul style="list-style-type: none"> abstract, analyze and synthesize the information received; highlight and to systematize the essential properties and connections of objects, to identify the main patterns of the objects under study; search, select and analyze information obtained from various sources in order to make the best decision at the modern scientific level, in accordance with professional tasks and the requirements of legal documents. 	<ul style="list-style-type: none"> methods of self-control, abstract and analytical thinking; skills in analyzing methodological problems that arise in solving research and practical problems, including those in interdisciplinary areas; skills of presenting an independent point of view
2.	UC-4.	Able to apply modern	UC-4.2. Compiles,	the basics of a professional	translate and edit various	skills of self-translation and

		communication technologies including in a foreign language(s), for academic and professional interaction	translates from a foreign language into the state language of the Russian Federation and from the state language of the Russian Federation into a foreign one, as well as edits various academic texts (abstracts, essays, reviews, articles, etc.) incl. in a foreign language	foreign language for the correct translation and editing of various academic and legal texts (reviews, scientific articles, pharmacopoeial articles, etc.), from a foreign language into the state language of the Russian Federation and from the state language of the Russian Federation into a foreign language	academic and regulatory texts (reviews, scientific articles, pharmacopoeial articles, etc.), from a foreign language into the state language of the Russian Federation and from the state language of the Russian Federation into a foreign language	editing of various academic and regulatory texts (reviews, scientific articles, pharmacopoeial articles, etc.), from a foreign language into the state language of the Russian Federation and from the state language of the Russian Federation into a foreign language
3.	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-1.1. Applies basic biological methods of analysis for the development, research and examination of pharmaceuticals and medicinal plant raw materials GPC-1.2. Applies basic physical-chemical and chemical analysis methods for the development, research and examination of medicinal products and medicinal plant raw materials 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	<ul style="list-style-type: none"> organization of a system of state control over the production and manufacture of drugs; the main regulatory documents, production and manufacture, quality control, storage and use of medicines (domestic and international standards (GMP, GLP, GCP, GPP), pharmacopoeias, orders of the Ministry of Health of the Russian Federation, guidelines and instructions approved by the Ministry of Health of the Russian Federation) for examination using chemical, biological, physicochemical and other methods; pharmacopoeial methods of analysis used in the analysis of medicinal products using chemical, biological, 	<ul style="list-style-type: none"> apply chemical, biological, physico-chemical and other methods of analysis during the examination of medicines. 	<ul style="list-style-type: none"> ensuring the process of quality control of medicines with equipment and consumables; basic chemical, biological, physico-chemical and other methods of analysis during the examination of medicines.

				physicochemical and other methods.		
4.	GPC-6.	Able to understand the principles of modern information technologies and use them to solve the tasks of professional activity	GPC-6.2. Performs an effective search for information necessary 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	modern means of computing technology	use modern computer technology and basic office applications And graphic packages; evaluate way of implementing information systems and devices for solving task	methods of practical use modern computers to search information processing and fundamentals numerical methods for solving applied tasks
5.	PC-4.	Able to participate in monitoring the quality, effectiveness and safety of medicines and medicinal plant raw materials	PC-4.3. Conducts pharmacognostic analysis of medicinal plant raw materials and medicinal herbal preparations	<ul style="list-style-type: none"> • laws and legislative acts of the Russian Federation, regulatory and methodological materials of the Ministry of Health of Russia, regulating the procedure for quality control of medicines in the conditions of pharmaceutical organizations; • methods of analysis used in the quality control of drugs in the conditions of pharmaceutical organizations; • monitor drug quality assurance systems; • the process of providing equipment and consumables for quality control in the conditions of pharmaceutical organizations; 	<ul style="list-style-type: none"> • apply chemical, physico-chemical methods of intra-pharmacy quality of drugs in the conditions of pharmaceutical organizations; • draw up documentation of the established form for the control of manufactured medicinal products in the conditions of pharmaceutical organizations; • monitor drug quality assurance systems; • provide the process of quality control in pharmaceutical organizations with equipment and consumables. 	<ul style="list-style-type: none"> • basic chemical and physico-chemical methods of intra-pharmacy quality control of drugs in the conditions of pharmaceutical organizations; • registration of documentation of the established sample for the control of manufactured drugs in the conditions of pharmaceutical organizations.
6.	PC-5.	Able to take part in planning	PC-5.7. Organizes control	the main regulatory and	• apply the regulatory	• skills in applying

	and organizing the resource provision of a pharmaceutical organization	over the availability and storage conditions of medicines for medical use and other products of the pharmacy assortment	legal documents (legal, legislative and administrative) relating to the conditions of storage and transportation of medicinal herbal raw materials and herbal medicinal products in the conditions of pharmaceutical organizations. • rules for the storage and transportation of medicinal herbal raw materials and medicinal herbal preparations, including poisonous and potent PKKN lists, narcotic, psychotropic, precursors, substances of lists A and B, as well as over-the-counter drugs, depending on chemical and physico-chemical drug properties, container properties	framework governing the storage of medicinal herbal raw materials and medicinal herbal preparations; • determine the indicator "description, packaging, labeling" during acceptance control; • ensure and control the conditions of storage and transportation of medicinal herbal raw materials and medicinal herbal preparations	normative and legislative acts regulating the conditions of storage and transportation of medicinal herbal raw materials and medicinal herbal preparations. • determination of indicators "description, packaging, labeling" during acceptance control; • skills to control compliance with the conditions of storage and transportation of medicinal herbal raw materials and medicinal herbal preparations
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4. Volume of the academic discipline and types of academic work

Total labor intensity of the discipline is 10 CU (360 AH)

Type of study work	Labor intensity				Labor intensity by semesters (ACh)
	volume in credit units (CU)	volume in academic hours (AH)	5	6	
			7		
classroom work, including	5.39	194	66	64	64
Lectures (L)	1.17	42	14	14	14
Practicals (P)	4.22	152	52	50	50
Student's individual work (SIW)	3.61	130	42	44	44
Mid-term assessment	1	36	-	-	36
exam	-	-	-	-	exam
TOTAL LABOR CAPACITY	10	360	108	108	144

5. Sections of the academic discipline and competencies that are formed

№	Competence code	Section name of the discipline
1.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	Introduction to pharmacognosy. Methods of pharmacognostic analysis.
2.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	MRM containing polysaccharides, fats, vitamins
3.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	MPM containing compounds of terpenoid structure
4.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	MRM containing glycosides
5.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	MRM containing phenolic compounds
6.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	MRM containing alkaloids
7.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	Drugs containing raw materials of animal origin
8.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	Analysis of crushed MRM
9.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	Fundamentals of herbal medicine and homeopathy
10.	<i>UC-1,4; GPC-1,6; PC-4,5</i>	Resource science