

Summary of the working program of the academic discipline

«INFORMATION SUPPORT FOR THE MEDICINE LIFECYCLE»

General Educational Program of higher education (specialist's degree programs): 33.05.01
Pharmacy

Department: *Management and Economics of Pharmacy and Pharmaceutical Technology*

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)).

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 (B1.C.25).

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

Mastering the discipline aims at acquiring the following universal (UC), general professional (GPC) 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-1.2. 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	<ul style="list-style-type: none"> – 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 	<ul style="list-style-type: none"> – 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 	<ul style="list-style-type: none"> – 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

				<p>main types of pharmaceutical information, their purpose and features</p> <ul style="list-style-type: none"> – general principles and methods of information retrieval – forms, methods and means of pharmaceutical information and advertising 	<p>medicines</p> <ul style="list-style-type: none"> – select the necessary amount of information about medicines required for specialists and patients 	
2.	GPC-1	<p>Able to use basic biological, physical-chemical, chemical, mathematical methods for the development, research and examination of medicines, the manufacture of medicinal products</p>	<p>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</p>	<ul style="list-style-type: none"> – 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 	<ul style="list-style-type: none"> – 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 	<ul style="list-style-type: none"> – 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	<p>Able to understand the principles of modern information technologies and use them to solve the tasks of professional activity</p>	<p>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 to solve the tasks of professional activity</p>	<ul style="list-style-type: none"> – modern information technologies in interaction with subjects of drug circulation – specialized software for mathematical processing of observational and experimental data in solving professional tasks 	<ul style="list-style-type: none"> – apply modern information technologies for solving professional tasks – search for information, necessary for solving problems of professional activity, using legal reference systems and professional pharmaceutical 	<ul style="list-style-type: none"> – skills in applying modern information technologies to solve professional problems – skills in searching for information, necessary for solving problems of professional activity, using legal reference systems

			<p>using legal reference systems and professional pharmaceutical databases</p> <p>GPC-6.3. Uses specialized software for mathematical processing of observational and experimental data in solving problems of professional activity</p> <p>GPC-6.4. Applies automated information systems in the internal processes of the pharmaceutical organization, as well as for interactions with customers and suppliers</p>	<p>– automated information systems in the internal processes of a pharmaceutical organization, as well as for interactions with customers and suppliers</p>	<p>databases</p> <p>– use automated information systems in the internal processes of a pharmaceutical organization, as well as for interaction with customers and suppliers</p>	<p>and professional pharmaceutical databases</p> <p>– skills in using automated information systems in internal processes of pharmaceutical organization and for interaction with clients and suppliers</p>
4.	PC-4	<p>Able to participate in monitoring the quality, effectiveness and safety of medicines and medicinal plant raw materials</p>	<p>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</p>	<p>– modern aspects of drug safety control and pharmacovigilance system</p> <p>– classification of adverse reactions, risk factors for their occurrence, features of pre- and post-registration studies of drug safety</p> <p>– 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</p>	<p>– identify and document adverse reactions, identify risk factors for their occurrence,</p> <p>– 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</p>	<p>– 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</p>
5.	PC-9	<p>Able to solve tasks of professional activities in the transfer of medicines through pharmaceutical and medical organizations</p>	<p>PC-9.2. Performs pharmaceutical information and consulting during the sale, release and transfer of medicines for medical use</p>	<p>– the main terms used in conducting pharmaco-economic and pharmaco-epidemiological studies</p> <p>– sources of obtaining and levels of evidence-based medicine data</p>	<p>– to select a drug among analogues and synonyms based on pharmaco-economic analysis</p> <p>– to use the results of pharmaco-economic research to improve the quality of pharmaceutical care to the population</p>	<p>– 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)</p>

4. 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 (<i>specify the type</i>)				exam
TOTAL LABOR INTENSITY	5	180	72	108

5. 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