Summaryof the working program of the academic discipline

«Biochemistry»
(name of the academic discipline)

General Educational Program of higher education (specialist's degree programs)
31.05.01 General Medicine
code, name of the specialty

Department: Biochemistry named after G.Ya. Gorodisskaya

1. The purpose of mastering the discipline: participation in the formation of relevant competencies: **UC-1, GPC-5, GPC-10.**

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.

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 critical analysis of problem situations based on a systematic approach, develop an action strategy	Knows: methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis Able to: gain new knowledge based on analysis, synthesis, etc.; collect data on complex scientific problems related to the professional field; search for information and solutions based on action, experiment and experience Has practical experience: researching the problem of professional activity using analysis, synthesis	the basic principles of biochemical processes of human activity in their integrity and interrelation	use the basics of biochemical knowledge about the composition and metabolism of organs and tissues to analyze their functions at the molecular level and the state of the body as a whole	ability to think abstractly, analyze, synthesize the information received

			and other methods of intellectual activity; developing an action strategy to solve professional problems			
2.	GPC-5	Able to assess morphofunctional, physiological conditions and pathological processes in the human body to solve professional problems	Knows: anatomy, histology, embryology, topographic anatomy, physiology, pathological anatomy and physiology of human organs and systems Able to: evaluate the basic morphological and functional data, physiological conditions and pathological processes in the human body Has practical experience in: assessment of basic morphological and functional data, physiological conditions and pathological processes in the human body when solving professional problems	the structure and properties of the main classes of biologicall y important compound s, the main metabolic pathways of their transforma tion, the role of hereditary factors in the developme nt of diseases	determine the state of the human body, to identify signs of pathologic al processes, based on the interpretati on of biochemic al studies	basic technologies for performing biochemical analyses in clinical settings and «at the patient's bedside» transformatio n of information by a medico-functional conceptual apparatus
3.	GPC-10	Able to understand the principles of modern information technologies and use them to solve the tasks of professional activity	Knows: the capabilities of reference information systems and professional databases; methods of information retrieval, information and communication technologies; modern medical and biological	medical and biological terminolog y, basic informatio n and informatio n and communic ation technologi	Analyze the state of the human body using knowledge about the biochemic al processes underlying its activity; interpret the results	Methods of evaluation of laboratory studies using mathematical calculations and comparisons.

			terminology; fundamentals of information security in professional activities Able to: apply modern information and communication technologies to solve the tasks of professional activity; carry out an effective search for information necessary to solve the tasks of professional activity using reference systems and professional databases; use modern medical and biological terminology; master and apply modern information and communication technologies in professional activity, taking into account the basic requirements of information security Has practical experience in the use of modern information and bibliographic resources, the use of special software and automated information systems to solve standard tasks of professional activity, taking into account the basic requirements of information security	es, bibliographic resources	of the most common methods of laboratory diagnostics, obtain information using information technologies and bibliographic resources	

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

Total labor intensity of the discipline is 7 CU (252 AH)

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		133	73	60		
Lectures (L)	0.78	28	18	10		
Laboratory practicum (LP)*	2, 91	**105**	55	50		
Practicals (P)						
Seminars (S)						
Student's individual work (SIW)	2.30	**83**	45	38		
Mid-term assessment						
credit/**exam** *(specify the type)*	1	**36**				
TOTAL LABOR INTENSITY	**7**	**252**	**118**	**98**		

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

№	Competence code	Section name of the discipline
1.	UC-1	Structure, properties and functions of proteins; Enzymes; Introduction to metabolism. Biological oxidation; Protein and amino acid metabolism; Nucleotide metabolism; Hormones; Carbohydrate metabolism; Lipid metabolism; Connective tissue Biochemistry; Muscle tissue Biochemistry; Liver Biochemistry. Biochemistry of nervous tissue; Biochemistry of blood and urine
2.	GPC-5	Structure, properties and functions of proteins; Enzymes; Introduction to metabolism. Biological oxidation; Protein and amino acid metabolism; Nucleotide metabolism; Hormones; Carbohydrate metabolism; Lipid metabolism; Connective tissue Biochemistry; Muscle tissue Biochemistry; Liver Biochemistry. Biochemistry of nervous tissue; Biochemistry of blood and urine
3.	GPC-10	Structure, properties and functions of proteins; Enzymes; Introduction to metabolism. Biological oxidation; Protein and amino acid metabolism; Nucleotide metabolism; Hormones; Carbohydrate metabolism; Lipid metabolism; Connective tissue Biochemistry; Muscle tissue Biochemistry; Liver Biochemistry. Biochemistry of nervous tissue; Biochemistry of blood and urine