

**7M10102 – «Medicine»  
Scientific and pedagogical direction (2 years)**

1	Name of the educational program	<b>Medicine</b>
2	Type of OP (active, new, innovative)	active
3	purpose EP	Training of personnel for the system of higher and postgraduate education and the research sector with in-depth scientific and pedagogical training.
4	Features EP (no, joint, double degree)	no
5	Partner University	no
6	Learning outcomes (at least 8 LO)	<p>LO 1 – He has in-depth knowledge of evidence-based medicine, demonstrates critical thinking, the ability to correctly organize the research process and consistently reflects these skills;</p> <p>LO 2 – He has advanced thinking skills, is looking for new ideas and creative solutions, and is able to determine the significance and importance of work-related ideas, has the ability to display his own beliefs and values related to professional activity, demonstrates an open-minded attitude to healthcare and contributes to its changes if necessary;</p> <p>LO 3 – Is able to determine the reliability of research quality in terms of design, selection of research methodology and methodology, analysis and use of resources;</p> <p>LO 4 – He is fluent in a foreign language, effectively uses a variety of information and communication technologies in his professional activities, taking into account information security;</p> <p>LO 5 – He is able to define and explain the philosophy of scientific activity, is able to critically analyze medicine as a profession, describes scientific phenomena in the field of healthcare;</p> <p>LO 6 – He is able to acquire new knowledge and skills of an applied nature in research, professional and pedagogical activities;</p> <p>LO 7 – Demonstrates knowledge of the organization's structure and management, mechanisms of interaction with stakeholders;</p> <p>LO 8 – He is able to predict and model the impact of the introduction of new services, technologies, health promotion and treatment measures.</p>
7	The form of education	Full-time
8	The language of instruction	Russian, Kazakh
9	Volume of loans	120 credits

10	The academic degree awarded is a Master's degree	Master of Medical Sciences in the educational program "Medicine"
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**Information about the disciplines:**

Name of disciplines	Brief content of the discipline	Cycle	Component	credit	Generated learning outcomes (codes)								
					LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	
History and philosophy of science	Contributes to the understanding of current problems of the history and philosophy of science as a modern world tradition of philosophical understanding of the nature of science, forms a scientific and methodological worldview based on knowledge of the features of modern science. It helps to improve the skills of scientific understanding of reality.	BD	RC (required component)	5					+				+
Foreign language (professional)	The course is aimed at mastering a foreign language, the necessary and sufficient level of communicative competence to solve social and communicative tasks in various fields of everyday, cultural, professional and scientific activities when communicating with foreign partners, as well as for further self-education.	BD	RC (required component)	5		+		+					
Higher school pedagogy	The objectives of mastering the discipline are to provide students with knowledge about the theoretical foundations of pedagogical theory and pedagogical skills, the management of the educational process for teaching in educational institutions, to give an idea of the main categories of pedagogy, about the place, role and importance of higher school	BD	RC (required component)	5				+		+			

	pedagogy in the system of human sciences and in the practical activities of a teacher, to form an understanding of the basic principles modern pedagogy and methodological approaches to solving pedagogical problems of higher education.											
Management Psychology	The discipline contributes to the formation of ideas about modern trends in scientific management - a new scientific management paradigm, helps to navigate the main sections of this discipline: the psychological content of managerial activity, the individual managerial concept of the head, the theoretical foundations of managerial interaction, psychological features of the implementation of basic managerial functions, psychology of the subject of managerial activity. It is aimed at acquiring the skills of psychological analysis of the relationship between organizational problems and the quality of the head's implementation of his managerial functions.	BD	RC (required component)	2		+					+	+
Teaching practice	Formation of knowledge, skills and abilities in research activities, solving standard scientific tasks	BD	RC (required component)	3				+		+		
Fundamentals of bioethics	The process of studying the discipline is aimed at the formation of the following competencies: the ability to use knowledge of the basics and principles of bioethics in professional and social activities, the ability and willingness to lead a discussion on socially significant problems of biology and ecology and medicine in general.	SD	RC (required component)	5	+							

Biostatistics	The study of the discipline is aimed at forming an understanding and holistic perception of the basic statistical concept and the concept of evidence in medicine, the clinical and statistical significance of research results. Acquisition of knowledge about the basics of biomedical statistics and its application in pharmacological research, methodological tools for descriptive and analytical statistics, types and features of biomedical research, experimental and clinical research in the field of pharmacology.	SD	RC (required component)	5	+		+			+		
Organization and management of healthcare	The main purpose of this course is to study the ability of modern organizations to use the achievements of the theory and practice of modern management. The course is aimed at developing effective management skills and the ability to make informed management decisions in the field of management of healthcare organizations.	SD	RC (required component)	6		+					+	+
Fundamentals of teaching methodology in medicine	The course is aimed at studying the tasks of medical education, studying ways to activate previous knowledge, learning styles, teaching methods. Promotes the development of an individual educational trajectory, rules and methods of working in groups.	SD	RC (required component)	6		+						
Fundamentals of clinical epidemiology and evidence-based medicine	It is aimed at familiarizing students with the methodology for assessing, identifying changes and predicting the health of the population and the environment. Promotes the acquisition of new knowledge on diagnosis, prevention and treatment, as well as improving the prognosis of diseases in the	SD	RC (required component)	6	+		+					

	practice of an epidemiologist from the standpoint of evidence-based medicine. Educates practical skills necessary for use in future professional activities in medical and preventive institutions.											
Fundamentals of the methodology of scientific research in medicine	The purpose of studying the discipline is to train specialists who possess fundamental theoretical knowledge and practical skills necessary for conducting scientific work. Promotes the development of skills for successful and timely writing of scientific papers.	SD	RC (required component)	6	+		+			+		+
<b>Surgical direction</b>												
Ecological reproductology	Modern achievements of medicine in the study of environmentally dependent adaptive and pathological reactions of the human reproductive system are considered based on the characteristics of human reproductive function, the progress of modern medicine and scientific achievements	SD	CC	4		+						
Modern methods of organizing and conducting scientific and clinical research in dentistry	This cycle is aimed at in-depth study of various research methods, improvement of skills to plan, control, evaluate quality, interpret research results in accordance with the latest achievements in dentistry, maxillofacial surgery and medicine in general	BD	CC	12		+						
Selected issues of anesthesiology in traumatology	This cycle examines the modern view and forms the concept of treating patients with damage and disease in the area of fingers and hands. The issues of both surgical and conservative treatment are considered. Special attention is paid to modern methods	BD	CC	3		+						

	of rehabilitation for pathology in the area of the wrist joint.											
VATS technologies in surgery of diseases and injuries of the chest	Modern methods and approaches in video-assisted thoracic surgery are considered, an in-depth study of modern approaches and treatment tactics, the effectiveness and quality of which are proven by the principles of evidence-based medicine	SD	CC	5		+						
<b>Pediatric referral</b>												
Rational antibacterial therapy for respiratory diseases in children	In-depth study of innovative diagnostic methods, the latest methods of antibacterial therapy in patients with acute and recurrent respiratory diseases of the upper respiratory tract according to the latest breakthroughs and prospects for the development of medicine	BD	CC	3		+						
Microbiological aspects of respiratory pathology in children	In-depth study of the role of microbial agents in the development of respiratory pathology, patterns of respiratory functions in pediatric patients with recurrent respiratory diseases of the upper respiratory tract from the perspective of modern evidence-based medicine	BD	CC	3		+						
Genetic aspects of hematology	The study of the latest diagnostic methods for the genetic and pathomorphological foundations of the formation of oncohematology, the development of tactics for the treatment and prevention of emergency conditions in children with oncohematology based on the characteristics of cancer, the progress of modern medicine and advanced scientific achievements	BD	CC	5		+						

Respiratory allergies in children	The cycle is aimed at studying diagnostic criteria, radiological and computed tomographic semiotics, clinical and pharmacological features of the therapy of respiratory diseases in children	BD	CC	4		+						
Features of pharmacokinetics and pharmacodynamics of medicines used in pediatric dentistry	To study the features of pharmacological treatment in the complex treatment of carious dental lesions based on the epidemiology of dental diseases using innovative methods of diagnosis and treatment in modern dentistry	SD	CC	9		+						
<b>Therapeutic area</b>												
Fundamentals of clinical recommendations for the diagnosis and treatment of diseases in endocrinology	To study advanced methods of diagnosis and management of patients with endocrine pathology in accordance with innovative approaches to the individual characteristics of the disease, to assess the presence of factors affecting the prognosis of the disease, its severity, rate of development and the obstacle of possible complications	BD	CC	4		+						
Modern pharmacotherapy of type 2 diabetes mellitus in cardiovascular pathologies	Improving skills and knowledge in the diagnosis and management of patients with diabetes mellitus in combination with CVD. The study of modern approaches to pharmacological treatment and prevention of diabetes in cardiovascular complications in accordance with the latest methods based on evidence-based medicine	SD	CC	5		+						
Disseminated lung diseases	The study of modern approaches in computed tomography of patients with disseminated lung diseases with erased, nonspecific clinical	BD	CC	7		+						

	manifestations, the absence of clear pathognomonic symptoms											
Selected issues of modern hepatology	The cycle is aimed at introducing students to more advanced concepts necessary to develop their understanding of liver pathology of various origins to the level expected at the graduate level. This discipline examines issues of hepatology, such as chronic hepatitis, cirrhosis, liver cancer, toxic liver damage.	BD	CC	4		+						
Modern methods of diagnosis and treatment, principles of prevention and screening of respiratory diseases at the PHC level	The issues of organizing the provision of pulmonological and cardiological care in the Republic of Kazakhstan at the PHC level, including diagnosis, treatment, disease prognosis, disability assessment, prevention and rehabilitation, are considered.	SD	CC	4		+						
<b>Medical and biological direction</b>												
Physiology of the central nervous system under experimental stress	The cycle is devoted to the experimental modeling of stress conditions, the study of modern scientific literature on the functioning of the central nervous system and its changes under stress, as well as the study of the results obtained in modeling stress conditions	SD	CC	5		+						
Physiology of the hematopoietic system under experimental stress	Advanced methods for studying changes in hematological parameters under the influence of immobilization and pain stress factors are considered	SD	CC	4		+						
The genetic basis of hereditary pathology	The study of the genetic foundations, principles of behavioral neurology, the development of methods of social and	BD	CC	5		+						



	medical adaptation of people with autism spectrum diseases											
The main issues of pathophysiology in pathologies of the osteoarticular apparatus	The escalation of knowledge, skills and abilities of managing patients with various types of pathology of the osteoarticular apparatus, the study of innovative diagnostic methods and modern treatment approaches based on the achievements of modern medicine	BD	CC	4		+						
The search for evidence to solve problems in various diseases	The cycle is aimed at familiarizing the undergraduate with the correct methodology for searching and evaluating medical information, the logical stages of decision-making in medical practice, which will integrate the best scientific data with the clinical experience of the doctor and the values of the patient, conscientiously, accurately and meaningfully use the best results of clinical research to choose the treatment of a particular patient.	BD	CC	6		+						
Research practice	Formation of a worldview in this field, mastering the basic techniques of conducting scientific research by undergraduates	SD	RC (required component)	6	+		+				+	
Research work of a graduate student, including internship and completion of a master's thesis (NIRM)	Gain experience, make a research plan, master the methods of analysis and determine the objectives of the study			24								
Final certification (FC)				12								
Total				120								

