I APPROVED
Rector of JSC "SKMA
"Zh.S. Seitzhanova
«02» 05 2025 y.

Educational Program

Educational program group: BM 088 Pediatrics
Program code: 6B10116
Educational program name: Pediatrics
Educational program level: Bachelor – Specialized Master's

Shymkent, 2025

One educational program 6B10116 "Pediatrics" was developed by the members of the Academic Committee of the program "Pediatrics".

Agreed with employers:

Head of the Regional Children's Hospital _____ Dosanova A.M.
Head of the City Children's Hospital _____ Zhumadilova D.A.
Chairman of the Academic Committee of the program "Pediatrics" _____ Kemelbekov K.S.

Protocol № 8 dated "28" 03 2025.

Approved by the Methodological Council:

Vice-Rector for Academic Affairs _____ Anartaeva M.U.

Protocol № 3 dated "02" 05 2025.

Approved by the Academic Council:

Protocol № 15 dated "02" 05 2025.

ОҚУ — ӘДІСТЕМЕЛІК ОРТАЛЫҒЫ

Passport of the Educational Program

1. The mission of the educational program: Training of highly qualified, competitive and competent personnel in accordance with modern requirements of education, science and healthcare system.

2. The purpose of the educational program: Training of a pediatric-profile physician, Master of Medicine, possessing a system of universal and professional competencies, capable and ready for independent professional activity in the context of primary health care.

3. Justification of the educational program:

-for students: obtaining continuous integrated medical education, including basic training - bachelor's degree, internship and master's degree. At the end of 6 years of study, a graduate will be awarded an academic master's degree and a diploma with a doctor's qualification will be issued.

-the need in the labor market: Provision of personnel possessing qualities such as high skill and professional persistence, having the necessary practical and theoretical knowledge, competence, attentiveness and insight, developed clinical thinking, and dedication.

4. The professional standard on the basis of which the educational program was developeda:

Regulatory documents for the development of an educational educational program

-Order of the Minister of Healthcare of the Republic of Kazakhstan “On Approval of Professional Standards in the Field of Healthcare” dated 25.01.2024 № 46;

-Order of the Minister of Science and Higher Education of the Republic of Kazakhstan “On Approval of State Mandatory Standards of Higher and Postgraduate Education” dated 20.07.2022 № 2, with amendments and additions dated 20 February 2023 № 66;

-Order of the Minister of Healthcare of the Republic of Kazakhstan “On Approval of State Mandatory Standards by Levels of Education in the Field of Healthcare” dated 04.07.2022 № QRDSM-63;

-Order of the Minister of Healthcare of the Republic of Kazakhstan “On Approval of Model Curricula for Medical and Pharmaceutical Specialties” dated 09.01.2023 № 4;

-Order of the Vice-Minister of Healthcare of the Republic of Kazakhstan “On Approval of the Phased Implementation of Continuous Integrated Medical Education” dated 08.08.2022 № 661;

-Code of the Republic of Kazakhstan dated 07.07.2020 № 360-VI “On the Health of the People and the Healthcare System” (with amendments and additions as of 04.07.2022);

-Law of the Republic of Kazakhstan “On Education” dated 27.07.2007 № 319-III, with amendments and additions as of 04.07.2022;

-Order of the Minister of Education and Science of the Republic of Kazakhstan dated 16.10.2013 № 420 “On Approval of Model Rules for the Activities of Higher and/or Postgraduate Education Organizations,” with amendments and additions dated 29.12.2021.

-Order of the Minister of Education and Science of the Republic of Kazakhstan dated 20.04.2011 № 152 “On Approval of the Rules for Organizing the Educational Process Using Credit-Based Learning Technology” (with amendments and additions as of 06.05.2021);
-Order of the Minister of Healthcare of the Republic of Kazakhstan dated 30.01.2008 № 27 “On Approval of the List of Continuous Integrated Education Programs in Clinical Specialties” (with amendments and additions as of 14.05.2021);
- “On Approval of Model Rules for the Activities of Education Organizations of Relevant Types and Kinds,” Order of the Minister of Education and Science of the Republic of Kazakhstan dated 30.10.2018 № 595, with amendments and additions dated 29.12.2021;
- “Guidelines for the Development of Higher and Postgraduate Education Programs,” Order of the Director of the CBP AM №45 o/d MES RK dated 30 June 2021;
- “Regulation on the Procedures for Developing Educational Programs,” JSC “SKMA,” dated 22.04.2024;
-Internal regulatory documents of JSC “SKMA.”

5. Field of professional activity: the field of professional activity of graduates who have mastered the educational program 6B10116 "Pediatrics" includes public health protection by providing medical care to children.

6. Objects of professional activity:

-healthcare management organizations;
-healthcare organizations;
-educational organizations;
-organization of science;
-organization of social protection;
-child population;
-a set of tools and technologies aimed at creating conditions for the protection of the health of the child population..

Types of professional activity:

-therapeutic, preventive and diagnostic;
-organizational and managerial;
-scientific research;
-pedagogical

General information

№	Field name	Note
1	Registration number	6B 10100130
2	Code and classification of the field of education	6B10 Healthcare and Social Security
3	Code and classification of training areas	6B101 Healthcare
4	Group of educational programs	BM 088
5	Name of the Educational Program	6B 10116 «Pediatrics»
6	Types of EP	New EP
7	A-level ISCED	
8	Level on the National framework of qualifications	7
9	The level of Sectoral qualification frameworks	7
10	Distinctive features of EP	Continuous Integrated Medical Education
	Partner University (SOP)	-
	Partner University (DDOP)	-
11	List of competencies	**LK1** Medical knowledge: to demonstrate and put into practice knowledge in the field of biomedical, clinical, epidemiological and socio-behavioral sciences, including generally accepted, developing and constantly updated knowledge, the synthesis of professional and scientific medical knowledge for the provision of qualified medical care
		LK2 demonstrate interpersonal and communication skills that lead to effective information exchange and collaboration with patients, their families and medical professionals, including using information technology, effectively interact with the patient, his environment, and healthcare professionals in order to achieve the best results for the patient

		LK3 Clinical skills: to provide effective patient-centered care, including appropriate and effective measures aimed at the diagnosis, treatment and prevention of diseases, the implementation of qualified medical care of the basic category of complexity. Defining a strategy for providing qualified medical care to the population of the second category of complexity
		LK4 demonstrate commitment to professional duties and ethical principles. Coordination of activities in healthcare organizations. The ability to make decisions and be responsible for the result of providing qualified medical care
		LK5 Personal and professional development: demonstrate the qualities necessary to maintain continuous personal and professional growth, continuous improvement of the quality of medical care based on constant self-assessment and lifelong learning. The ability to learn independently and train other members of a professional team, actively participate in discussions, conferences and other forms of continuous professional development
		LK6 Regulatory knowledge: to be aware of and demonstrate responsibility for their actions within the framework of the current regulatory framework of the healthcare system and to be guided by them in their practical activities to ensure optimal medical care. The ability to act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan
		LK7 Research: The ability to research and evaluate the results of their professional activities, the application of principles of diagnosis of diseases based on scientific data. The application of modern research methods in healthcare, taking into account bioethics and the introduction of clinical practice
12	Learning outcomes	**LO1.**Applies in practice knowledge in the field of biomedical, clinical, epidemiological and socio-behavioral sciences, including generally accepted, developing and constantly updated knowledge for diagnosis, treatment, and dynamic monitoring of the most common diseases in children. **LO2.** Adheres to the principles of organization and management in the field of child health protection in medical organizations and their structural divisions.

		LO3. He is committed to fulfilling professional duties, adheres to the norms of ethics and deontology, principles of inclusion, interpersonal and communication skills, leading to effective information exchange and cooperation with patients, their families and medical professionals. **LO4.**Conducts outpatient appointments based on evidence-based medicine, diagnosis, treatment, dynamic monitoring and rehabilitation activities among the child population **LO5.** It works in the electronic databases of the healthcare system, providing documentation of the processes of providing medical services and managing medical and statistical information within the framework of the digitalization of healthcare. **LO6.** Applies scientific knowledge based on the evaluation of treatment results and when conducting research based on scientific data. **LO7.** Provides effective patient-centered care, which includes appropriate and effective measures aimed at the diagnosis, treatment and prevention of diseases of the child population. **LO8.** Determines the indications for hospitalization of sick children, in an emergency or planned manner, taking into account age characteristics to provide timely and high-quality medical care. **LO9.** Supports continuous personal and professional growth, continuously improves on the basis of constant self-assessment and lifelong learning **LO10.** Adheres to the standards of public health protection, sanitary and hygienic regime and occupational safety standards in healthcare organizations, epidemiological safety of the environment. **LO11** Adheres to the standards of public health protection, sanitary and hygienic regime and occupational safety standards in healthcare organizations, epidemiological safety of the environment. **LO12** He applies the results of modern research methods in his professional activities using digital tools and artificial intelligence, including the processing and analysis of big data, medical images, diagnosis of diseases, taking into account bioethics and compliance with all ethical standards.

		LO13 Conducts preventive and health-improving activities in the pediatric service to assess biorisks, provide safe care to the child population, protect medical personnel and protect public health.
13	Form of Study	Full-time
14	The presence of accreditation EP	Kazakh, Russian and English
15	Name of accreditation organization	360
16	The term of study is	6 y
17	The term Accreditation Actions	Master of Medicine / Doctor
18	Information about the disciplines	KZ36LAA00011387
19	Accreditation Status of the Educational Program	Yes
	Name of the Accreditation Body	“Independent Agency for Accreditation and Rating” IAAR
	№ Accreditation Certificate Number, Accreditation Validity Period	Baccalaureate - № AB 5421, 21.06.2024г. - 20.06.2029г. Magistracy - № AB 5421, 21.06.2024г. - 20.06.2029г.
20	Information on Course	Application ***1.2***

Matrix of correlation of learning outcomes according to the educational program as a whole with the competencies being formed

Application 1.1

LO / LK	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11	LO12	LO13
LK 1	+	+	+	+	+				+				+
LK 2	+		+	+	+	+	+		+	+	+		
LK 3	+			+	+	+		+	+		+	+	
LK 4	+	+		+	+	+	+			+	+		

LK 5			+	+	+	+	+	+		+	+		+
LK 6			+	+	+	+	+	+	+	+	+		
LK7			+	+	+	+	+	+	+	+	+	+	

Application 1.2

Matrix of achievability of competencies/learning outcomes

№	Name of the discipline	Brief description of the discipline	Cycle (GED, BD, SD)	Component (RC, EC, UC)	Number of credits	Generated learning outcomes(codes)
The cycle of general education disciplines					**46**	
1	History of Kazakhstana	Formation of the ideological, civil and moral positions of the future specialist based on a deep understanding and scientific analysis of the main stages, patterns and peculiarities of the historical development of Kazakhstan, as well as the ability to use methods and techniques of historical description to analyze the causes and consequences of events in the history of Kazakhstan.	**GED**	**RC**	5	LO 2 LO 12

2	Physical education	Formation of a person who is competitive and capable of physical self-improvement through the skills of building a personal educational trajectory throughout life for self-development and career growth, focused on a healthy lifestyle to ensure full-fledged social and professional activities through methods and means of physical culture	**GED**	**RC**	6	LO1 LO7 LO9
3	Foreign language	Formation of a person who is competitive and capable of physical self-improvement through the skills of building a personal educational trajectory throughout life for self-development and career growth, focused on a healthy lifestyle to ensure full-fledged social and professional activities through methods and means of physical culture.	**GED**	**RC**	8	LO2 LO9
4	Kazakh (Russian) Language	Formation of communication skills in oral and written forms in Kazakh and Russian languages to solve the problems of interpersonal, intercultural and professional communication; analysis of information in accordance with the communication situation and the ability to interpersonal social and professional communication in Kazakh and Russian languages; use of language and speech means based on the system of grammatical knowledge to build communication programs in Kazakh and Russian, professional success and self-improvement	**GED**	**RC**	8	LO1 LO2 LO9
5	Information and communication technology	Formation of information and communication technology skills that contribute to the development of information literacy through the acquisition and use of modern technologies in all spheres of their lives and activities; the use of various types of information and communication technologies in personal activities: Internet resources, cloud and mobile services for the search, storage, processing, protection and dissemination of information, etc.	**GED**	**RC**	3	LO 1 LO 3 LO 9
6	Philosophy	Formation of skills for assessing the surrounding reality on the basis of worldview positions formed by knowledge of the fundamentals of philosophy, which provide scientific understanding and study of the natural and social world by methods of scientific and philosophical cognition; interpret the content and specific features of the mythological, religious and scientific worldview; skills of quantitative and qualitative analysis of social phenomena, processes and problems.	**GED**	**RC**	5	LO1 LO9 LO12

7	Module of Socio-Political Knowledge (Psychology, Cultural Studies, Sociology, and Political Science)	Formation in the future specialist of worldview, civic and moral qualities, self-development skills, critical thinking, competitiveness, sociological and political knowledge, understanding of social structure, culture, and identity of Kazakhstan, and the role of the state, authority, and civil society.	**GED**	**RC**	6	LO1 LO2 LO4
8	Legal, financial - economic, environmental and scientific knowledge	Based on economic, financial, legal, environmental and scientific knowledge, the formation of one"s own moral and civic position; general competencies in dealing with social, business, cultural, financial, legal and ethical norms of Kazakh society for self-development and lifelong education, mobility in the modern world and critical thinking; skills in applying scientific methods and research techniques a specific science.	**GED**	EC	5	LO1 LO2 LO4 LO12
9	Fundamentals of economics and law	Formation of knowledge on the fundamentals of constitutional, administrative, civil and family, financial and labor, environmental and land and criminal rights of the Republic of Kazakhstan. The market and competition. Money and inflation. The monetary system. Financial system and fiscal policy. Features of the development of the national economy in the Republic of Kazakhstan. The choice of a business idea and a startup, business planning in the system of entrepreneurial activity, the content of the business plan, the skills of their development. Basic concepts of law and state-legal phenomena.	**GED**	EC		LO1 LO2 LO12
10	Ecology, sustainable development and life safety, scientific research methods	Development of environmental literacy: based on environmental, scientific knowledge and sustainable development, formation of skills: to analyze environmental problems, develop analytical and critical thinking skills when considering environmental issues, identify and study environmental problems, search for cause-effect relationships and propose appropriate solutions; conduct and interpret environmental research: data collection skills, information analysis and application of environmental techniques to study natural systems; apply environmental knowledge to analyze and solve problems related to environmental pollution and their impact on the human body. Mastering the methodological foundations of scientific knowledge. Application of scientific research methods in theory and practice.	**GED**	EC		LO1 LO2 LO4 LO12
11	Fundamentals of anticorruption	Formation of an anti-corruption culture. Theoretical and methodological foundations of the concept of "corruption". Political power and corruption. Nepotism. The transformation	**GED**	EC		LO1 LO2

	culture and Entrepreneurial Skills	of corruption in modern states. Anti-corruption policy in the Republic of Kazakhstan and the role of the social sphere in it. Legal responsibility for acts of corruption.				LO4 LO12
Cycle of Basic Disciplines					**105**	
12	Introduction to the profession	Integrated discipline: formation of professional skills for work in medical institutions, including patient care, performance of medical procedures, record keeping, development of communication skills and understanding of ethical standards, compliance with the principles of inclusion, ensuring quality care and compliance with the legislation of the Republic of Kazakhstan in the field of health care.	BD	UC	4	LO2 LO3 LO4 LO7 LO13
13	Practical Training "Safe Care"	Formation and consolidation of practical skills for providing safe care to patients in medical organizations. During the practice, students master the rules of personal hygiene for medical personnel, infection prevention methods, techniques for safe patient transfer and positioning, and the basics of caring for sick children of different ages and conditions. Issues of compliance with sanitary and epidemiological regulations, safety techniques, first aid, and prevention of occupational risks are also addressed. The practice contributes to the development of responsibility, attentiveness, and adherence to the principles of patient and medical staff safety.	BD	UC	1	LO2 LO3 LO4 LO7 LO13
14	Molecular biology and medical genetics	Integrated discipline: It forms fundamental educational and scientific knowledge aimed at understanding metabolic processes, cell structure, polymorphism, and the relationship between structure and function for the diagnosis, treatment, and dynamic control of the most common childhood diseases. It also forms the skills to use artificial intelligence, including the processing and analysis of large data sets at the tissue level of organization of living matter.	BD	UC	6	LO1 LO3 LO12
15	Chemistry	Formation of fundamental knowledge about chemical processes in the human body, types of concentrations for determining the quantitative content of substances in biological fluids and preparation of medical solutions, and the biological role of organic compounds used in medicine. Formation of skills for using the basic principles of qualitative and quantitative analysis for the diagnosis and treatment of diseases.	BD	UC	4	LO1 LO8

16	Musculoskeletal system and skin in normal in children	Integrated discipline: forms fundamental knowledge about anatomical and physiological features, with mastery of Latin terminology and the structure of the musculoskeletal system in children. Develops skills in the principles of ethics, deontology, inclusion and communication. He has the skills to study the basics of anatomical, histological structure, and physiological processes in the musculoskeletal system in children, using knowledge of biomedical sciences (anatomy, physiology, histology).	BD	UC	6	LO1 LO2
17	Introduction to the clinic	Integrated discipline: formation of professional skills for work in medical institutions, including patient care, performance of medical procedures, record keeping, development of communication skills and understanding of ethical standards, compliance with the principles of inclusion, ensuring quality care and compliance with the legislation of the Republic of Kazakhstan in the field of health care.	BD	UC	3	LO1 LO2 LO4 LO8
18	The nervous system and sensory organs (hearing and balance, vision) are normal in children	Integrated discipline: forms fundamental knowledge about the anatomical and physiological features of the nervous system and sensory organs in children. Develops skills in the principles of ethics, deontology, inclusion and communication. He has the skills to study the basics of anatomical, histological structure, physiological processes in the nervous system and sensory organs in children, using knowledge of biomedical sciences (anatomy, physiology, histology).	BD	UC	5	LO1 LO2
19	The cardiovascular system is normal in children	Integrated discipline: forms fundamental knowledge about the anatomical and physiological features of the cardiovascular system in children. Develops skills in the principles of ethics, deontology, inclusion and communication. He has the skills to study the basics of anatomical, histological structure, and physiological processes in the cardiovascular system in children, using knowledge of biomedical sciences (anatomy, physiology, histology).	BD	UC	4	LO1 LO2
20	Respiratory system is normal in children	Integrated discipline: forms fundamental knowledge about the anatomical and physiological features of respiratory organs in children. Develops skills in the principles of ethics, deontology, inclusion and communication. He has the skills to study the basics of anatomical, histological structure, and physiological processes in children"s respiratory organs, using knowledge of biomedical sciences (anatomy, physiology, histology).	BD	UC	4	LO1 LO2

21	Normal digestive and endocrine systems in children	Integrated discipline: forms fundamental knowledge about the anatomical and physiological features of the digestive system and the endocrine system in children. Develops skills in the principles of ethics, deontology, inclusion and communication. He has the skills to study the basics of anatomical, histological structure, physiological processes in the digestive organs and the endocrine system in children, using knowledge of biomedical sciences (anatomy, physiology, histology).	BD	UC	4	LO 1 LO 2
22	Normal genitourinary system in children	Integrated discipline: forms fundamental knowledge about the anatomical and physiological features of the organs of the genitourinary system in children. Develops skills in the principles of ethics, deontology, inclusion and communication. He has the skills to study the basics of anatomical, histological structure, and physiological processes in the organs of the genitourinary system in children, using knowledge of biomedical sciences (anatomy, physiology, histology).	BD	UC	3	LO 1 LO 2
23	Normal blood and lymph in children	Integrated discipline: develops fundamental knowledge about the anatomical, physiological and histological features of the blood and lymph system. Develops skills in the principles of ethics, deontology, inclusion and communication. He has the skills to study the basics of anatomical, histological structure, physiological processes in blood and lymph systems in children, using knowledge of biomedical sciences (anatomy, physiology, histology).	BD	UC	3	LO 1 LO 2
24	General pathology	Integrated discipline: forms fundamental knowledge about the patterns of development of common pathological processes for the diagnosis of the most common diseases. Promotes understanding of the skills of pathophysiological analysis of clinical and laboratory data, description of macro - and micro-preparations, pathophysiological foundations of prevention and treatment of various diseases. Promotes the development of medical technologies using artificial intelligence, medical image processing, and disease treatment.	BD	UC	5	LO 1 LO 3 LO 8
25	Biochemistry	He develops knowledge about the functional organization of enzymes, the role of membranes in metabolism, the mechanisms of transport of substances, vitamins and their biological role, anaerobic energy production pathways, catabolism, the metabolism of carbohydrates, lipids and proteins, as well as the concept of nitrogen balance as an indicator of protein metabolism. Applies scientific knowledge and skills based on the evaluation of results for the diagnosis and treatment of diseases.	BD	UC	4	LO 1 LO 12

26	Fundamentals of pharmacology and formulation	Integrated discipline: Forms basic knowledge about the pharmacodynamics and pharmacokinetics of medicines in pediatrics, their classification, action, indications, contraindications, side effects, dosage and rules of prescribing in Latin, followed by promotes skills in emergency care and the choice of rational therapy based on evidence-based medicine.	BD	UC	3	LO 1 LO 5 LO 6
27	Microbiology and immunology	It forms knowledge about the morphophysiology and genetics of microorganisms, etiopathogenesis, immunity, laboratory diagnostics, prevention, and further promotes understanding of the skills of immunological diagnostic methods and mechanisms of functioning of the immune system, observing the norms of the legislation of the Republic of Kazakhstan. Applies scientific knowledge based on evaluation of results for the diagnosis and treatment of diseases.	BD	UC	6	LO 1 LO4 LO12
28	Nervous system and sensory organs (hearing and balance, vision) in children in pathology	Integrated discipline: develops fundamental knowledge on the basics of semiotics, syndromology, physical examination methods, etiopathogenesis, morphogenesis of pathological processes of the nervous system and sensory organs, mastering the skills of effective diagnostic methods and properties of medicines for the treatment of diseases, taking into account the principles of evidence-based medicine and a patient-centered approach. Applies scientific knowledge based on the evaluation of treatment results during research.	BD	UC	4	LO 1 LO 5 LO 8 LO 12
29	Practical Training “As an Assistant to the Ward and Procedural Nurse”	Applies practical skills in therapeutic and diagnostic procedures, patient care with consideration of ethics and inclusion, and formulation of a preliminary clinical diagnosis. Develops effective communication, self-control, professional responsibility, and documentation management in the context of healthcare digitalization to ensure quality medical care. Adheres to principles of organization and management in the field of child health care.	BD	UC	1	LO 2 LO 5 LO 8 LO 10 LO 11
30	Public health and the foundations of evidence-based medicine	Integrated discipline: Develops knowledge on public health policy, activities of healthcare structures, types of medical care, regulatory and legal aspects, ethics and deontology. They master the basic principles of evidence-based medicine, a patient-centered approach, the basics of prevention and wellness measures in the pediatric service for the assessment of biorisks.Adheres to the standards of public health protection, sanitary and hygienic regime and occupational safety standards in healthcare organizations.	BD	UC	7	LO 2 LO 4 LO 5 LO 7 LO 8 LO 13

31	Propaedeutics of internal diseases	Forms knowledge about examination methods, symptoms and syndromes of diseases, principles of diagnosis. Adheres to the principles of ethics, deontology, inclusion, as well as the basics of maintaining medical records and effective patient-centered outpatient care, taking into account self-monitoring and improvement. He applies the results of modern research methods in his professional activities using artificial intelligence.	BD	UC	5	LO 1 LO 2 LO 3 LO 8
32	Fundamentals of radiologic diagnosis	Develops knowledge on radiation diagnostics and modern imaging methods, including artificial intelligence: radiography, ultrasound, CT, MRI, radioisotope and interventional diagnostics, mastering the principles of image interpretation, ensuring radiation safety, compliance with the legislation of the Republic of Kazakhstan, developing clinical thinking and applying a patient-oriented approach based on ethical standards.	BD	UC	3	LO 2 LO 3 LO 4 LO 8
33	Epidemiology	Integrated discipline: Promotes the formation of skills in the learning process about the principles and features of hygienic rationing of various environmental factors.Carries out its activities within the framework of the legislation of the Republic of Kazakhstan in the field of healthcare. Conducts preventive and health-improving activities in the pediatric service to evaluate biorisks. Adheres to the norms of sanitary and hygienic regime and occupational safety.	BD	UC	6	LO 1 LO 4 LO 7 LO 13
34	Foreign language (professional)	Formation of skills of communicative competence necessary for professional interaction, mastery of a professional foreign language for conducting oral and written communication in a scientific and clinical environment, ensuring continuous improvement of activities using modern information sources and technologies.	BD	UC	3	LO 2 LO 3 LO 12
35	Clinical epidemiology	Formation of clinical and epidemiological research skills using evidence-based medicine. Early diagnosis, identification and elimination of risk factors. Organization of scientific research: setting goals, selecting methods, collecting and analyzing data, and presenting results. Environmental impact assessment, preventive and health education measures.	BD	EC	4	LO 4 LO 5 LO 12
36	Artificial intelligence and digital medicine	Formation of knowledge and skills about digital technologies in medicine and healthcare, modern software and hardware for processing medical information. The ability to use information flows in the professional activity of a doctor, telemedicine services, artificial intelligence for diagnosis, verification of the correctness of drug administration, access to resources and medical data.	BD	EC		LO 3 LO 4 LO 11

37	Healthcare management	Formation of managerial and communicative competence of a healthcare professional within the framework of the legislation of the Republic of Kazakhstan. Mastering the principles of management, developing leadership skills, making managerial decisions, analyzing performance, ensuring teamwork, implementing digital technologies, effective communication, self-improvement and continuous professional development in healthcare.	BD	EC	3	LO 2 LO 4 LO 9 LO 11
38	Industrial/Clinical Practice “As an Assistant to the Resident Physician-1”	Applies practical skills in therapeutic and diagnostic procedures, patient care with consideration of ethics and inclusion, and formulation of a preliminary clinical diagnosis. Develops effective communication, self-control, professional responsibility, and documentation management in the context of healthcare digitalization to ensure quality medical care. Adheres to principles of organization and management in the field of child healthcare.	BD	UC	3	LO 1 LO 5 LO 8 LO 12
		Cycle of Specialized Disciplines			**209**	
39	The cardiovascular system in pathology in children	Integrated discipline: develops fundamental knowledge on semiotics, syndromology, physical examination methods, etiology, pathogenesis and morphogenesis of the cardiovascular system in children, mastering the skills of choosing and analyzing the effectiveness of diagnostic methods and properties of medicines for the treatment of diseases, taking into account the principles of evidence-based medicine and a patient-centered approach. Applies scientific knowledge based on the evaluation of treatment results during research.	SD	UC	5	LO 1 LO 5 LO 8 LO 12
40	Respiratory system in pathology in children	Integrated discipline: develops fundamental knowledge on semiotics, syndromology, physical examination methods, etiopathogenesis and morphogenesis of the respiratory system in children, mastering the skills of choosing and analyzing the effectiveness of diagnostic methods and properties of medicines for the treatment of diseases, taking into account the principles of evidence-based medicine and a patient-centered approach. Applies scientific knowledge based on the evaluation of treatment results during research.	SD	UC	5	LO 1 LO 5 LO 8 LO 12
41	Digestive and endocrine systems in pathology in children	Integrated discipline: develops fundamental knowledge on semiotics, syndromology, physical examination methods, etiopathogenesis, morphogenesis of the digestive and endocrine system in children, mastering the skills of choosing and analyzing the effectiveness of diagnostic methods and properties of medicines for the treatment of	SD	UC	5	LO 1 LO 5 LO8 LO12

		diseases based on the principles of evidence-based medicine and a patient-centered approach. Applies scientific knowledge based on the evaluation of treatment results during research.				
42	Genitourinary system in pathology in children	Integrated discipline: develops fundamental knowledge on semiotics, syndromology, physical examination methods, etiopathogenesis, morphogenesis of the genitourinary system in children, mastering the skills of choosing and analyzing the effectiveness of diagnostic methods and properties of medicines for the treatment of diseases based on the principles of evidence-based medicine and a patient-centered approach. Applies scientific knowledge based on the evaluation of treatment results during research.	SD	UC	4	LO1 LO5 LO8 LO12
43	Blood and lymph in pathology in children	Integrated discipline: develops fundamental knowledge on semiotics, syndromology, physical examination methods, etiopathogenesis, morphogenesis of the blood and lymph system in children, mastering the skills of choosing and analyzing the effectiveness of diagnostic methods and properties of medicines for the treatment of diseases based on the principles of evidence-based medicine and a patient-centered approach. Applies scientific knowledge based on the evaluation of treatment results during research.	SD	UC	4	LO1 LO5 LO8 LO12
44	Musculoskeletal system and skin in pathology in children	Integrated discipline: develops fundamental knowledge on the basics of semiotics, syndromology, physical examination methods, etiopathogenesis, morphogenesis of the musculoskeletal system and skin, mastering the skills of choosing and analyzing the effectiveness of diagnostic methods and properties of medicines for the treatment of diseases based on the principles of evidence-based medicine and a patient-centered approach. Applies scientific knowledge based on the evaluation of treatment results during research.	SD	UC	4	LO1 LO5 LO8 LO12
45	Surgery and types of surgical interventions	Formation of the anatomical foundations of clinical thinking and basic skills of basic surgical techniques: the general principle of the layered structure of the human body; topographic anatomy of specific areas; clinical anatomy of internal organs, cellular spaces, neurovascular formations, bones and large joints; age-related features of the structure, shape and position of organs in children; technique of performing basic surgical techniques using general surgical and specialized instruments; issues of ethics and deontology. In his professional activity, a pediatrician can apply the acquired topographic and anatomical	SD	UC	5	LO1 LO2 LO5 LO6

		knowledge to substantiate the diagnosis, explain the features of the course of pathological processes, and solve diagnostic and anatomical and surgical problems.				
46	Project Activities and biostatistics	Integrated discipline: develops knowledge about the methods and tools of project management in medicine, as well as practical skills for using descriptive statistics and hypothesis testing theory in biomedical research for analyzing diagnostics and treatment, as well as processing statistical data using artificial intelligence to identify patterns and predict risks.	SD	UC	5	LO 3 LO 11 LO12
47	Basics of childhood diseases	It forms knowledge about diseases in children, provides skills in diagnostic methods, pharmacotherapy and management tactics for children, taking into account ethics and deontology, effective communication, formulation of clinical diagnosis, application of evidence-based medicine, management of medical documentation, analysis of the effectiveness of diagnosis and treatment results in pediatrics. Adheres to the principles of organization and management in the field of child health protection.	SD	UC	16	LO1 LO2 LO5 LO11
48	Basics of internal diseases	It forms knowledge about diseases of organs and systems, provides skills in diagnostic methods, pharmacotherapy and patient management tactics, taking into account ethics and deontology, effective communication, formulation of clinical diagnosis, application of evidence-based medicine, management of medical documentation, analysis of diagnostic effectiveness and treatment results.	SD	UC	8	LO1 LO2 LO5
49	Basics of obstetrics and gynecology	Develops skills in the organization of health care, family planning, the use of contraceptive methods based on evidence-based medicine, scientific principles, continuous self-education and development. Promotes the development of medical technologies, diagnostic and treatment methods using artificial intelligence. High-quality performance of professional tasks, medical care, organization of self-monitoring and continuous improvement of their activities within the framework of the legislation of the Republic of Kazakhstan.	SD	UC	8	LO 3 LO4 LO5 LO9 LO12
50	Children infectious diseases	Develops knowledge in the field of infectology, taking into account age characteristics, studying the relationship with clinical microbiology and immunology, mastering diagnostic methods, pharmacotherapy and prevention of infectious diseases. It helps to develop skills in compliance with health protection standards, sanitary regime,	SD	UC	4	LO4 LO7 LO10 LO11 LO13

		epidemiological safety and medical documentation management within the framework of the legislation of the Republic of Kazakhstan.				
51	Children infectious diseases	Develops knowledge in the field of infectology, taking into account age characteristics, studying the relationship with clinical microbiology and immunology, mastering diagnostic methods, pharmacotherapy and prevention of infectious diseases. It helps to develop skills in compliance with health protection standards, sanitary regime, epidemiological safety and medical documentation management within the framework of the legislation of the Republic of Kazakhstan.	SD	UC	5	LO4 LO7 LO10 LO11 LO13
52	Pediatric phthisiology	He has knowledge of methods for diagnosing tuberculosis in children, the basics of pharmacotherapy and prevention based on the application of scientific principles in the study of the discipline. Develops skills in compliance with public health standards, sanitary and hygienic regime, occupational safety in healthcare organizations, and epidemiological safety of the environment. High-quality performance of professional tasks, medical care, organization of self-monitoring and continuous improvement of their activities within the framework of the legislation of the Republic of Kazakhstan.	SD	UC	4	LO3 LO4 LO5 LO9 LO10 LO12
53	Fundamentals of surgical diseases	Develops knowledge and skills in the diagnosis of surgical pathology, emergency care, choice of patient management tactics and indications for hospitalization. The use of modern treatment and rehabilitation technologies, compliance with ethics and deontology, effective communication, formulation of a clinical diagnosis using evidence-based medicine and fulfillment of duties within the framework of the legislation of the Republic of Kazakhstan.	SD	UC	3	LO2 LO3 LO4 LO5 LO6
54	Pediatric Otorhinoloringology and ophthalmology	Has knowledge of the principles of working with documentation in an electronic system. He learns skills based on modern methods for diagnosis, treatment, prevention, follow-up, rehabilitation, medical, social and emergency care for otorhinolaryngological, ophthalmological patients at the pre-hospital stage. Issues of ethics, deontology, effective communication, formulation of clinical diagnosis, use of evidence-based medicine, provision of emergency care and compliance with the legislation of the Republic of Kazakhstan	SD	UC	5	LO2 LO3 LO4 LO5 LO6 LO9
55	Pediatric surgery	Formation of knowledge and skills in the diagnosis of surgical pathology in children, patient management tactics, indications for hospitalization, the use of new diagnostic	SD	UC	8	LO1 LO2

		technologies and surgical interventions. Issues of ethics, deontology, effective communication, formulation of clinical diagnosis, use of evidence-based medicine, provision of emergency care and compliance with the legislation of the Republic of Kazakhstan				LO4 LO5 LO6
56	Clinical/Industrial Practice “As an Assistant to the Doctor Physician-2”	Develops skills in collecting patient complaints and medical history, conducting objective examinations, performing physical assessments, interpreting clinical data, identifying the primary syndrome, prescribing examination and treatment plans, and maintaining a dynamic observation diary. Ensures a patient-centered approach, effective communication, use of evidence-based medicine, and management of medical documentation in digital format. Conducts preventive and health-promoting activities in the pediatric service to assess bio-risks.	SD	UC	3	LO2 LO4 LO5 LO7 LO8 LO11
57	General surgery	Formation of skills in the organization of primary surgical care: aspetics and antiseptics; injuries, burns and care for them; wounds and wound process and types of surgical sutures; bleeding, blood loss and care for them; local and regional anesthesia in surgery, general anesthesia; issues of ethics and deontology in surgery; issues of hospitalization. The acquired knowledge will make it possible in medical practice to correctly diagnose and analyze research results to assess the condition of surgical patients, provide surgical care, develop and implement preventive and rehabilitative measures to preserve the health of children.	SD	UC	3	LO1 LO2 LO5 LO6
58	Emergency medical care	Develops knowledge and skills in the field of emergency care within the framework of the legislation of the Republic of Kazakhstan, providing high-quality medical care, applying the principles of emergency medical care, diagnosing emergency conditions in various fields of medicine, effective communication in compliance with ethics, deontology and principles of inclusion, documenting the processes of care within the framework of digitalization of healthcare.	SD	UC	9	LO2 LO4 LO6 LO11
59	Pediatric Neurology	Formation of diagnostic skills for neurovascular, neuromuscular, demyelinating and degenerative diseases. He learns skills based on modern methods and scientific data for diagnosis, treatment, prevention, follow-up, rehabilitation, medical, social and emergency care for neurological patients. Issues of ethics, deontology, effective communication,	SD	EC	5	LO1 LO3 LO5 LO12

		formulation of clinical diagnosis, use of evidence-based medicine, provision of emergency care and compliance with the legislation of the Republic of Kazakhstan.				
60	Child psychiatry, narcology	Has knowledge of the etiology, pathogenesis, clinic of critical conditions, their clinical, laboratory and instrumental diagnostics, experimental psychological research, principles of therapy, psychopharmacotherapy and age characteristics; establish professional relationships with colleagues and colleagues. It promotes the development of medical technology skills and methods for the diagnosis and treatment of mental disorders in children.	SD	EC	4	LO1 LO3 LO5 LO12
61	Clinical pathomorphology and forensic medicine	Integrated discipline: Formation of skills in the lifetime and postmortem pathomorphological diagnosis of common diseases and emergencies: pathoanatomic autopsy, protocol, epicrisis, formulation of diagnosis, comparison of diagnoses, rules for sampling material for biopsy examination, pathohistological conclusion. Procedural and organizational bases of forensic medical examination within the framework of legislation. Features of the pathoanatomical examination of fetal and child corpses that died in the perinatal period and infancy. Expertise in examining the corpses of children with various signs of violent and non-violent death. Filling out a medical death certificate, coding the causes of death.	SD	UC	3	LO1 LO4 LO6 LO11
62	Clinical Pharmacology	It builds knowledge about the clinical and pharmacological approach to choosing effective and safe drugs for the treatment and prevention of diseases, provides skills in pharmacological analysis and expertise of drug therapy, develops a drug formulation based on clinical recommendations and scientific research, and applies knowledge in practice to provide emergency care in emergency situations and analyze treatment effectiveness.	SD	UC	4	LO2 LO5 LO6 LO7 LO12
63	Pediatric Otorhinoloringology and ophthalmology	Has knowledge of the principles of working with documentation in an electronic system. He learns skills based on modern methods for diagnosis, treatment, prevention, follow-up, rehabilitation, medical, social and emergency care for otorhinolaryngological, ophthalmological patients at the pre-hospital stage. Issues of ethics, deontology, effective communication, formulation of clinical diagnosis, use of evidence-based medicine, provision of emergency care and compliance with the legislation of the Republic of Kazakhstan.	SD	UC	4	LO1 LO3 LO5 LO12

64	Pediatric dermatovenerology	He has knowledge of diagnostic methods for skin diseases in children, the basics of pharmacotherapy and prevention based on the application of scientific principles. Develops skills in compliance with public health standards, sanitary and hygienic regime, occupational safety in healthcare organizations, and epidemiological safety of the environment. High-quality performance of professional tasks, medical care, organization of self-monitoring and continuous improvement of their activities within the framework of the legislation of the Republic of Kazakhstan.	SD	UC	4	LO2 LO5 LO6 LO7 LO12
65	Pediatric Anesthesiology and Intensive Care	Learns the principles of organization of pediatric anesthesiological and intensive care work. Improves knowledge and develops skills in early differential diagnosis algorithms, patient management tactics based on modern methods and scientific data. Organizes the provision of modern diagnostic and therapeutic care in accordance with the principles of evidence-based medicine and modern advances in medical and diagnostic technologies using artificial intelligence.	SD	UC	5	LO1 LO3 LO5 LO12
66	Childhood diseases in general medical practice	Forms effective medical, social and emergency care for children at the pre-hospital stage based on modern methods and scientific data of diagnosis, treatment, prevention, dispensary supervision and rehabilitation of patients. Masters interpersonal and communication skills, cooperation with sick children and their families. Conducts outpatient admission, diagnosis, treatment and dynamic monitoring of children based on evidence-based medicine.	SD	UC	10	LO1 LO2 LO4 LO5 LO6 LO7 LO9 LO10 LO11 LO13
67	Pediatric surgery in general medical practice	Develops effective medical, social and emergency care for children at the pre-hospital stage based on modern methods and scientific data for the diagnosis, treatment and follow-up of children with surgical pathologies. Masters interpersonal and communication skills, cooperation with patients and their families. Conducts outpatient admission, diagnosis, treatment and dynamic monitoring of children based on evidence-based medicine.	SD	UC	6	LO1 LO2 LO4 LO5 LO6 LO7 LO9

						LO10 LO11 LO13
68	Obstetrics and pediatric gynecology in general medical practice	Develops effective medical, social and emergency care for children at the pre-hospital stage based on modern methods and scientific data for the diagnosis, treatment and follow-up of gynecological patients, management of pregnant women using modern methods. Issues of ethics, deontology, effective communication, formulation of clinical diagnosis, use of evidence-based medicine, provision of emergency care and compliance with the legislation of the Republic of Kazakhstan.	SD	UC	5	LO1 LO2 LO4 LO5 LO6 LO9 LO11 LO13
69	Internal diseases in general medical practice	Forms effective medical, social and emergency care for children at the pre-hospital stage based on modern methods and scientific data of diagnosis, treatment, prevention, dispensary supervision and rehabilitation of patients. Masters interpersonal and communication skills, cooperation with patients. Conducts outpatient admission, diagnosis, treatment and dynamic monitoring of children based on evidence-based medicine.	SD	UC	5	LO1 LO2 LO4 LO5 LO6 LO11 LO13
70	Oncology and Radiology	Formation of methods for obtaining medical images, organization of work of the Department of oncology and radiation diagnostics. The use of modern technologies, including artificial intelligence. Develops skills in the use of radiation therapy for tumors and non-tumor diseases, planning a course of treatment. Compliance with ethics, deontology, hygiene and occupational safety. Development of self-control skills and continuous improvement of professional responsibilities.	SD	EC	4	LO1 LO3 LO5 LO12
71	Interpretation of electrocardiography and echocardiography*	Formation of ECG and EchoCG interpretation skills for the diagnosis of cardiovascular diseases. Application of physical examination methods and analysis of the results. Ethics, deontology and effective communication with patients. The use of artificial intelligence to improve diagnosis and treatment, work with electronic documentation, continuous improvement of professional activities.	SD	EC		LO6 LO7 LO9 LO10

72	Integrated management of childhood diseases *	The formation of skills is the primary signs of measures to reduce child mortality up to 5 years of age and learns the principles of providing assistance in accordance with the established procedure. Studies the principles of managing children with cough and shortness of breath, diarrhea, fever, sore throat, eating disorders and anemia on an outpatient basis. Conducts a critical analysis of the problems of newborns and infants at the primary health care level.	SD	EC		LO6 LO7 LO9 LO10
73	Pediatric Endocrinology *	Formation of knowledge of diagnosis and treatment of the most common endocrine diseases in children using advanced technologies, patient management tactics. Prevention, rehabilitation and dynamic monitoring of patients. Medical examination. Health education. Documenting the processes of providing medical services. Mastering the skills of research in the field of endocrinology. Communication skills and patient support.	SD	EC		LO6 LO7 LO9 LO10
74	Clinical allergology, immunology *	Formation of knowledge about practical aspects of diagnosis and treatment of the most common allergic diseases in children using advanced technologies, patient management tactics. Prevention, rehabilitation and dynamic monitoring of patients. Medical examination. Health education. Documenting the processes of providing medical services. Mastering research skills in the field of allergology and immunology. Communication skills and patient support.	SD	EC		LO6 LO7 LO9 LO10
75	Rehabilitation and sports medicine in pediatrics *	Formation of knowledge about practical aspects of diagnosis, treatment, prevention, follow-up and rehabilitation of pediatric patients based on modern methods and scientific data. Working with documentation in an electronic system. Effective communication with patients, self-monitoring, and support. Mastering research skills in therapy, using advanced technologies to improve diagnosis and treatment.	SD	EC		LO6 LO7 LO9 LO10
76	Emergency pediatrics *	Studies the principles of emergency medical care for children. Knows the regulations governing the provision of emergency and emergency medical care. Develops the skills of clinical examination of a sick child and diagnosis of emergency conditions at the pre-hospital stage. Provides effective teamwork communication in solving the patient"s problems. He is constantly developing in self-education and professional growth.	SD	EC		LO6 LO7 LO9 LO10
77	Neonatology in general medical practice	Improves knowledge and develops skills in diagnostic algorithms and differential diagnosis of diseases in newborns, management tactics based on modern methods and scientific data. Organizes the provision of modern diagnostic and therapeutic care in	SD	UC	5	LO2 LO3 LO5

		accordance with the principles of evidence-based medicine and modern advances in medical technology. Provides effective teamwork communication in solving the patient"s problems.				LO8 LO12
78	Clinical/Industrial Practice “As an Assistant to a General Practitioner”	Improvement of professional competencies and acquisition of practical skills necessary for organizing the medical process, interpreting the results of laboratory and instrumental studies, and establishing a clinical diagnosis. Mastery of essential medical procedures and skills in providing emergency medical care. Ensures effective communication with patients, their families, and healthcare professionals.	SD	UC	8	LO1 LO2 LO4 LO5 LO6 LO7 LO9 LO10 LO11 LO13
79	**Experimental and Research Work**				**13**	
80	**Writing and Defense of the Master’s Project and Preparation for and Passing of the Comprehensive Examination**				**12**	
	TOTAL				**360**	

Note: * – Elective Component Courses