ONTÚSTIK QAZAQSTAN
MEDISINA
AKADEMIASY
«Оңтүстік Қазақстан медицина академиясы» АҚ

SOUTH KAZAKHSTAN
MEDICAL
ACADEMY
АО «Южно-Казахстанская медицинская академия»

«APPROVED»
Rector
JSK «SKMA»
Doctor of Medical Sciences.,
Professor M.M. Rysbekov
«08» 08 2022 y.

EDUCATIONAL PROGRAM

The code of the educational program:	7M10104
Name of the educational program:	Pharmacy
The level of the educational program:	Magistracy

Shymkent, 2022 y.

The educational program was developed by the members of the CEP:

Head of the Department of Medicine Technology, Doctor of Pharmacy, Professor — Sagyndykova B.A.

Head of the Department «Organization and Management of Pharmaceutical business», Doctor of Pharmacy, Professor — Shertaeva K.D.

Head of the Department of Pharmaceutical and Toxicological Chemistry, Doctor of Pharmacy, Professor — Ordabaeva S.K.

Head of the Department of Pharmacognosy, Ph.D. in Pharmacy, Acting Professor — Orynbasarova K.K.

Agreed with the employer:

Director of the Association of Pharmaceutical and Medical Organizations «Damu» — Alzhanova Kh.D.

Director of «Recipe» LLP — Baimbetov E.A.

Advisor to the Director of Pharmaceutical Activities of «Ecopharm International» LLP — Kenzhebaev Zh.D.

Head of the Production Department of «Zerde-Phyto» LLP — Zhumataev M.Zh.

Chairman of the CEP «Pharmacy»
Protocol № 12 05 08 2022 y. Toksanbayeva A.S.

Approved by the Scientific Council
Vice-Rector for Scientific and Clinical Work
Protocol № 5а 08 08 2022 y. Nurmashev B.K.

Approved by the Academic Council
Protocol № 15 08 08 2022 y.

Passport of the educational program

1. **The mission of the educational program:** Training of management personnel with the skills of experimental research work in pharmacy.
2. **The purpose of the educational program:** Training of managerial personnel for the pharmaceutical industry with organizational and management skills based on experimental research in pharmacy, with fundamental knowledge that guarantees them professional mobility in the real developing world.
3. **The basis of the educational program:** Creation of an effective training system for scientific personnel capable of effectively solving problems of pharmacy and management in healthcare in pharmacy, ensuring the modernization of education, science, and developing breakthrough technologies based on the integration of education and science.
4. **The professional standard on the basis of which the educational program was developed:**

Regulatory documents for the development of an educational program

- 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 July 20, 2022 No. 2.
- Order of the Minister of Health of the Republic of Kazakhstan «On approval of state mandatory standards for levels of education in the field of healthcare» dated July 4, 2022 No. KR DSM-63.
- Order of the Minister of Education and Science of the Republic of Kazakhstan «On approval of the Rules for the organization of the educational process on credit technology of education in organizations of higher and (or) postgraduate education» dated April 20, 2011 No. 152.
- The Law of the Republic of Kazakhstan «On Education» dated July 27, 2007 No. 319-III (as amended on 07/04/2022)
- Order of the Minister of Education and Science of the Republic of Kazakhstan «On approval of Standard Rules for the activities of organizations of higher and postgraduate education» dated October 30, 2018 No. 595 (as amended on 12/29/2021)
- «Regulations on the procedure and procedures for the development of educational programs» JSC «SKMA» dated 05/29/2019
- Internal regulatory documents of JSC «SKMA»

5. The field of professional activity: Heads of pharmaceutical enterprises, pharmacist for quality management in pharmacy, pharmacist manager.

6. **The object of professional activity:** Healthcare management organizations, pharmaceutical organizations and manufacturing.

Types of professional activity:

- organizational and managerial;
- research activities.

General information

№	Characteristics of the EP	Data
1	Registration number	7M10100136
2	The code and classification of the field of education	7M10 Healthcare
3	The code and classification of the training area	7M101 Healthcare
4	Group of educational programs	M142 Pharmacy
5	Code, name of the educational program	7M10104 Pharmacy
6	Type of EP	Current EP
7	ISCED level	7
8	NQF level	7
9	IQF Level	7
10	Distinctive features of the EP	No
	Partner University (JEP)	-
	Partner University (DDEP)	-
11	List of competencies	

		Key competencies of the graduate of the program: **KC1** Able to effectively and successfully carry out research activities in the field of quality and safety of medicines and medicinal plant raw materials. **KC2** GMP and GPP can organize and manage the manufacturing process of pharmaceutical products in accordance with the standards of the relevant pharmaceutical practices. **KC3** Has the skills to validate analytical methods, statistical processing of test results, and prepare a report on the validation of methods in accordance with international requirements. **KC4** Able to plan, organize and manage pharmaceutical activities to create conditions for storage, transportation and quality control and sale of medicines and medical devices in accordance with the requirements of the standards of relevant pharmaceutical practices. **KC5** Competent in the field of pharmaceutical development in accordance with the principles of relevant practices, capable of professional.
12	Learning Outcomes	**LO1** Conducts pharmacoeconomic analysis, maintains clinical and pharmaceutical documentation. **LO2** Manages and plans the activities of pharmaceutical entities. Organizes and carries out pharmaceutical activities in the control and licensing system in the field of circulation of medicines and medical devices. **LO3** Organizes a system for maintaining documentation that allows you to trace the actions performed in relation to medicines and medical devices, received and shipped batch / batch of products from the supplier to the buyer and the identification of counterfeit medicines and medical devices. **LO4** Organizes work in entities engaged in pharmaceutical activities to create conditions for storage, transportation and quality control of medicines and medical

		devices. **LO5** Organizes and manages the technological process of manufacturing pharmaceutical products in accordance with the standards of good pharmaceutical practices GMP, GPP. Organizes procedures for quality control of medicines in accordance with the requirements of regulatory documents, international quality standards. **LO6** Demonstrates knowledge and understanding of the interdisciplinary nature of research in modern pharmaceutical practice. **LO7** Is engaged in professional growth, demonstrates introspection skills.
13	Form of study	In-person
14	Language of instruction	Kazakh, Russian
15	Amount of loans	60
16	Degree Awarded	Master public health on the educational program 7M10104 «Pharmacy»
17	Duration of training	1 year
18	Availability of an appendix to the license for the direction of personnel training	KZ36LAA00011387 (018)
19	Availability of EP accreditation	Yes
	Name of accreditation body	Independent Agency for Accreditation and Rating (IAAR)
	Accreditation Certificate No., Accreditation Validity Period	№AB 3992, 10.06.2022y. – 09.06.2027y.
20	Information about disciplines	Annex 1.2

Annex 1

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

	LO1	LO2	LO3	LO4	LO5	LO6	LO7
KC1							
KC2							
KC3							
KC4							
KC5							

Annex 1.2

Matrix of achievability of competencies/learning outcomes

№	Name of the discipline	A brief description of the discipline	Cycle (BD, PD)	Component (UC, OC)	Number of credits	Generated LO (codes)
The cycle of basic disciplines					**10**	
Mandatory / University component					**6**	
1	Management	Introduction to management: basic concepts. Functions, principles and elements of the management process. The evolution of management: the conditions and prerequisites for the emergence of management, school management. Features of Kazakhstan management. Integration processes in management. Management systems: functions and organizational structures. Planning, SWOT-analysis and forecasting in management. Management processes: goal-setting and assessment of the situation, making management decisions. Management mechanism.	BD	UC	2	LO2 LO4
2	Foreign language (professional)	Purpose of discipline: allows to develop communication skills in a foreign language, intercultural competencies and business correspondence skills. The main types reading original sources of foreign-language, preparation of written reports on scientific topics by specialty. Listen to lectures, messages containing professional information.	BD	UC	2	LO7
3	Psychology of management	Purpose of discipline: use knowledge of the basic provisions psychology of manage-ment. Approaches and principles of	BD	UC	2	LO2 LO7

		psychological science in professional work. Presentation of conclusions in the field of theoretical and practical psychology of management; scientific and theoretical worldviews on fundamental psychological concepts. Analysis of management processes. Application of the received knowledge in practice in management activities.				
Optional Component (Drug Technology Module and Pharmaceutical Management)					**4**	
4	Good distribution practices	Infrastructure, its place and importance in good distribution practice. Features of LS as a consumer product. Principles of Good distribution practice adopted in the EU and recommended by the world health organization (WHO) a Unified approach to the organizational process of wholesale sale of medicines. Compliance with and documentation of all operating procedures.	BD	OC	4	LO3 LO4
Optional component (Pharmaceutical Chemistry and Pharmacognosy Module)					**4**	
5	Instrumental methods of analysis	The use of a complex of modern physicochemical methods for solving the problems posed to the researcher. In-depth study of modern physic-chemical research methods (spectral, electrochemical, etc.), mastering modern laboratory analytical and test equipment, the use of mathematical methods for processing measurement results.	BD	OC	4	LO6 LO7
Cycle of profile disciplines					**25**	
University component (General professional module)					**5**	
6	Management and marketing at pharmaceutical	Organizational model. Management as a tool for managing a pharmaceutical enterprise. Strategic management in pharmacy. Personnel management. Quality management of	PD	UC	3	LO2 LO4

	companies	pharmaceutical activities. Office work at the enterprises of pharmaceutical profile. Marketing planning in the implementation of pricing policy, promotion and distribution of ideas, products and services. Smart principle and situation analysis. Assortment management. Maintaining the competitive advantages of pharmaceutical companies.				
7	Research methodology in pharmacy	Fundamentals of research methodology in pharmacy. Goals and objectives of the discipline. The emergence and development of pharmaceutical knowledge. Pharmacy as scientific knowledge. Means and methods of scientific research. Areas of research in pharmacy. Actual problems of health care and pharmacy, modern methods of their solution. Research methodology. Characteristics of scientific activity. Means and methods of scientific research.	PD	UC	2	LO6 LO7
8	Industrial practice	Consolidation of theoretical knowledge acquired during the training process, acquisition of practical skills, competencies and experience in professional activities in public health, as well as development of best practices.	PD	UC	10	LO6
Optional Component (Drug Technology Module and Pharmaceutical Management)					**10**	
9	Technology of parapharmaceutical and nutritsevtichesky medicines	Basic concepts, tasks, terms of the discipline «Technology of parapharmaceutical and nutraceutical drugs». Dietary supplements and public health. Natural products used in dietary supplements. Clinical efficacy of dietary supplements. The latest technologies for the production of medicines - products of nanotechnology and biotechnology.	PD	OC	4	LO3 LO5
10	Appropriate	International standards of good pharmaceutical practice	PD	OC	3	LO1

	pharmaceutical practice GMP,GPP	GMP, GPP. Good Manufacturing Practice Standard GMP EAEU and RK. The standard of good pharmaceutical practice GPP of the EAEU and the Republic of Kazakhstan. The main provisions of the standards of good pharmaceutical practice. Requirements for organizing production in accordance with the rules of good practice. Implementation of GMP and GPP standards in pharmaceutical enterprises of the Republic of Kazakhstan.				LO4 LO5
11	Management consultation	Professional management consulting in the management of pharmaceutical personnel. Specific tools of management consulting services. Organizational diagnostics in management consulting. Methods of management consulting. Types of consulting services. Consultant–client relationships organisational diagnosis Methods.	PD	OC	3	LO2 LO3
Optional component (Pharmaceutical Chemistry and Pharmacognosy Module)					**10**	
12	Standardization and quality control of shredded medicinal plant materials and packaged products	Visual characteristic. Qualitative and quantitative analysis and validation parameters of the method used. Physical and chemical properties of biologically active substances in ground LSR. Types of grinding method. Determination of the degree of grinding. Substantiation of the method of obtaining substances and dosage forms. Types of packaging containers. Possible processes of transformation of BAS during drying, storage, processing of medicinal plant materials.	PD	OC	4	LO4 LO5
13	GLP rules when creating new	GLP rules in medicine quality control. Organization of the process of quality control of medicines from the stage of	PD	OC	3	LO2 LO7

	medicines	processing raw materials to the production of finished products; new regulatory aspects in the field of drug circulation in the European Union. Principles of preclinical studies in accordance with national and international GLP standards.				
14	State registration and re-registration of medicinal raw materials of plant and animal origin	General provisions of state registration and re-registration of plant and animal origin. The structure and content of the documents of state registration and re-registration of the LRS dossier. The procedure for the examination. Types of expertise. Types of conclusions about the safety, effectiveness and quality of herbal drugs. Amendments to the state registration and re-registration dossier of vegetable and animal origin LRS.	PD	OC	3	LO1 LO2
Experimental research work					**13**	
15	Experimental research work of a student, including an internship and the implementation of a master's project	It is based on modern achievements of science, technology and production and contains specific practical recommendations and independent solutions to management problems. Performed using advanced information technologies; Contains experimental and research (methodological, practical) sections.			13	LO1 LO2 LO3 LO4 LO5 LO6 LO7
Final examination					**12**	
16	Design and defense of a master's project	Assessment of learning outcomes and key competencies achieved upon completion of the Master's degree program.			12	LO1 LO2 LO3 LO4 LO5 LO6 LO7
TOTAL					**60**	

Annex 1.3

A matrix for achieving LO using various learning methods

LO	Teaching and learning methods	
LO1 Conducts pharmacoeconomic analysis, maintains clinical and pharmaceutical documentation.	Lectures, seminars, analysis, regulation of pharmaceutical activities	Discussion of the results of the analysis, group work
LO2 Manages and plans the activities of pharmaceutical entities. Organizes and carries out pharmaceutical activities in the control and licensing system in the field of circulation of medicines and medical devices.	Practical modeling	Data analysis, strategy development and decision-making, working in small groups
LO3 Organizes a system for maintaining documentation that allows you to trace the actions performed in relation to medicines and medical devices, received and shipped batch / batch of products from the supplier to the buyer and the identification of counterfeit medicines and medical devices.	Case study, material analysis, feedback from the undergraduate	Discussion, group work
LO4 Organizes work in entities engaged in pharmaceutical activities to create conditions for storage, transportation and quality control of medicines and medical devices	Participation in the discussion, answers to questions	Data analysis, strategy development and decision-making, working in small groups
LO5 Organizes and manages the technological process of manufacturing pharmaceutical products in accordance with the standards of good pharmaceutical practices GMP, GPP. Organizes procedures for quality control of medicines in accordance with the requirements of regulatory documents, international quality standards.	Material analysis, pharmaceutical activity analysis	Data analysis, practical tasks
LO6 Demonstrates knowledge and understanding of the interdisciplinary nature of research in modern pharmaceutical practice.	Using interdisciplinary situations	Discussion, group assignments
LO7 Is engaged in professional growth, demonstrates introspection skills.	Conducting research activities, publishing publications, club magazine	Participation in the discussion, answers to questions

Annex 1.4

The matrix of compliance of LO with assessment methods

LO	Assessment methods	
LO1 Conducts pharmacoeconomic analysis, maintains clinical and pharmaceutical documentation.	Portfolio	Testing Oral interview
LO2 Manages and plans the activities of pharmaceutical entities. Organizes and carries out pharmaceutical activities in the control and licensing system in the field of circulation of medicines and medical devices.	Testing Oral interview	Preparation and provision of information at the appropriate level
LO3 Organizes a system for maintaining documentation that allows you to trace the actions performed in relation to medicines and medical devices, received and shipped batch / batch of products from the supplier to the buyer and the identification of counterfeit medicines and medical devices.	Testing Oral interview	Preparation and protection of the report
LO4 Organizes work in entities engaged in pharmaceutical activities to create conditions for storage, transportation and quality control of medicines and medical devices	Self-assessment	Publications
LO5 Organizes and manages the technological process of manufacturing pharmaceutical products in accordance with the standards of good pharmaceutical practices GMP, GPP. Organizes procedures for quality control of medicines in accordance with the requirements of regulatory documents, international quality standards.	Oral response, oral survey	Essay (short and long)
LO6 Demonstrates knowledge and understanding of the interdisciplinary nature of research in modern pharmaceutical practice.	Summary/presentation	Publications
LO7 Is engaged in professional growth, demonstrates introspection skills.	Preparation of test and situational tasks	Oral response, oral survey

Work plan for the entire period of study

The cycle of disciplines		Discipline code	Name of the discipline	Amount of credits	General hours	Practical lesson	MIC		1 year of study	Form of control
							MTIC	MIC		
1	2	3	4	5	6	7	8	9	10	13
BD	**UC/OC**	**BASIC DISCIPLINES**		**10**	**300**	**100**	**60**	**140**	**10**	
BD	UC	**University component (Interdisciplinary module)**		**6**	**180**	**60**	**36**	**84**	**6**	
		M-Mened	Management	2	60	20	12	28	2	Exam
		M-FL	Foreign language (professional)	2	60	20	12	28	2	Exam
		M-PsM	Psychology of management	2	60	20	12	28	2	Exam
	OC	**1) Optional Component (Module on Drug technology and pharmaceutical business organization)**		**4**	**120**	**40**	**24**	**56**	**4**	
		M-GDP (prof)	Good distribution practices	4	120	40	24	56	4	Exam
		2) Optional Component (Module on Pharmaceutical chemistry and pharmacognosy)		**4**	**120**	**40**	**24**	**56**	**4**	
		M-IMA1104 (prof)	Instrumental methods of analysis	4	120	40	24	56	4	Exam
PD	**UC/OC**	**PROFILE DISCIPLINES**		**25**	**750**	**250**	**150**	**350**	**25**	
	UC	**University component (General professional module)**		**5**	**150**	**50**	**30**	**70**	**5**	
		M-MMPC (prof)	Management and marketing at pharmaceutical companies	3	90	30	18	42	3	Exam
		M-RMP (prof)	Research methodology in pharmacy	2	60	20	12	28	2	Exam
		IP	**Industrial practice**	**10**	**300**	**100**	**60**	**140**	**10**	**Report**

PD	OC	**1) Optional Component (Module on Drug technology and pharmaceutical business organization)**		**10**	**300**	**100**	**60**	**140**	**10**	
		M-TFNP (prof)	Technology of parapharmaceutical and nutritsevtichesky medicines	4	120	40	24	56	4	Exam
		M-NFP (prof)	Appropriate pharmaceutical practice GMP,GPP	3	90	30	18	42	3	Exam
		M-MC (prof)	Management consultation	3	90	30	18	42	3	Exam
		2) Optional Component (Module on Pharmaceutical chemistry and pharmacognosy)		**10**	**300**	**100**	**60**	**140**	**10**	
		M-SQCShMPP (prof)	Standardization and quality control of shredded medicinal plant materials and packaged products	4	120	40	24	56	4	Exam
		M-RWCNM (prof)	GLP rules when creating new medicines	3	90	30	18	42	3	Exam
		M-SRRMMPAO (prof)	State registration and re-registration of medicinal raw materials of plant and animal origin	3	90	30	18	42	3	Exam
ERW		**EXPERIMENTAL RESEARCH WORK**		**13**	**390**	**130**	**260**		**13**	
	ERWI	Experimental research work of a student, including an internship and the implementation of a master's project		11	330	110	220		11	Report
				2	60	20	40		2	
FE		**FINAL EXAMINATION**		**12**	**360**	**120**	**240**		**12**	
FE	DDMP	Design and defense of a master's project		12	360	120	240		12	
		TOTAL		**60**	**1800**	**600**	**1200**		**60**	