

For the register of educational programs

1	Name of the educational program	7M10112 Pharmacy
2	Type of EP (current , new, innovative)	new
3	Purpose of the EP	Formation of a high level of professional competencies and research skills among students in the main areas of practical pharmacy.
4	Features of the EP (none , joint , two- diploma)	none
5	Partner university	-
6	Learning outcomes	<p>LO-1 Demonstrates knowledge and understanding of the interdisciplinary nature of research in the field of pharmacy</p> <p>LO-2 Acquires new knowledge and skills of an applied nature in research and professional activities in the field of pharmacy, using scientific information for the development of pharmacy and introduces new approaches within the framework of its qualifications</p> <p>LO-3 Organizes and analyzes the activities of pharmaceutical organizations in accordance with Appropriate pharmaceutical practices; focuses on the specifics of pharmacy economics and consumer behavior in the pharmaceutical market; applies methods of forecasting the main economic indicators and economic analysis and accounting</p> <p>LO-4 Demonstrates knowledge in the organization of the work of the clinical and pharmaceutical service in medical and pharmaceutical organizations</p> <p>LO-5 Organizes the production activities of pharmaceutical organizations for the manufacture and production of drugs; carries out the technological process on the appropriate equipment, in compliance with the rules of international standards</p> <p>LO-6 Systematizes and summarizes the setting of research goals and the choice of optimal methods and technologies to achieve them, is able to draw conclusions on the basic principles of organization and management in the field of pharmaceutical activity; conducts standardization and quality control of medicines used in the pharmaceutical industry</p> <p>LO-7 Uses network computer technologies, databases, software packages; processes information using applied software tools of the business sphere of activity, complies with the basic requirements of information security</p>
7	Form of study	full-time
8	Language of instruction	russian, kazakh
9	Volume of loans	60
10	Awarded academic degree	Master of Health in the educational program 7M10112 – "Pharmacy"

11	EP accreditation (name of the accreditation body, accreditation validity period)	
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Information about disciplines:

No.	Discipline code	Name of disciplines	Brief content of the discipline	Cycle	Component	Credit you	Formed learning outcomes (codes)							
							LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	
1		Foreign language	Deepening and development of skills and abilities for practical mastery of everyday speech and the language of the specialty for the active use of a foreign language both in everyday and professional communication.	BD	UC	2	+	+		+				+
2		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 implementation by the head of his managerial functions.	BD	UC	2	+	+					+	
3		Management	Management as a management tool of a pharmacy organization. Personnel management. Marketing research. The essence and directions of practical application of the marketing complex: goods, organization of its distribution and implementation of pricing.	BD	UC	2	+	+					+	
4		Pharmaceutical development	Pharmaceutical development of medicines, in accordance with the required level of control of the appropriate category, namely, the higher	BD	EC	4		+		+	+	+		

			the risk when using it, the higher the production control. Currently, the development of medicines is carried out with the help of specialized CAD systems, which significantly reduces time and financial costs										
5		Management accounting in pharmacy	Management accounting in pharmacy is one of the special pharmaceutical disciplines that forms the professional knowledge, skills and abilities of a specialist working in the pharmaceutical market, where accounting and reporting data are necessary as the main element for the development of the organization. Accounting and reporting data are also used for forecasting processes.	BD	EC	4	+		+			+	+
6		Falsification of medicines	Providing the population with safe, effective, high-quality and affordable medicines. Definition of the term "falsified drug". Classification of counterfeit medicines. The program for the development of the pharmaceutical industry of the Republic of Kazakhstan. The role of Pharmacovigilance (FN). Turnover of counterfeit medicines. Problems of falsification of medicines, their types. The causes and extent of the spread of drugs. Control and anti-fraud measures.	BD	EC	4		+				+	+
7		Principles of formation of a guaranteed volume of free medical care	The guaranteed volume of free medical care is provided to citizens of the Republic of Kazakhstan at the expense of budgetary funds and includes preventive, diagnostic and curative medical services with the greatest proven effectiveness. Compulsory social health insurance is a set of legal, economic and organizational measures to provide medical care at the expense of the social health insurance fund.	BD	EC	4			+	+		+	+
8		Fundamentals of metrology, standardization and certification	Formation of a general idea about metrology and metrological activity, about mastering the concepts of measurement methods and errors, measurement errors, in the normalization of metrological characteristics of measuring instruments, in familiarization with the basics of standardization and certification. Classification of measurements. Metrological characteristics of measuring and control instruments.	PD	UC	3	+	+	+	+		+	+

9		Production of medicines. Quality control and government regulation.	It forms students' understanding of the physico-chemical essence of processes and the use of the laws of chemistry, biotechnology, pharmaceuticals in complex engineering activities in the field of pharmaceutical production, in the processes of obtaining medicines, the formation of skills for independent formulation and conducting theoretical and experimental research.	PD	UC	3		+				+	
10		Phytochemical analysis of medicinal plant raw materials	Phytochemical analysis studies the conduct of qualitative analysis - qualitative reactions to the main active substances (authenticity) and quantitative analysis — quantitative determination of active substances, determination of humidity, ash content, extractive substances (good quality). For each type of LRS, methods of qualitative and quantitative analysis are indicated in the ND. Physicochemical methods of analysis are also widely used - spectrophotometric, chromatographic, luminescent, etc.	PD	UC	3	+	+		+		+	
11		Rationing of pharmaceutical production	State regulation of the production of medicines is a set of requirements, legalized by relevant documents, to the quality of medicinal and auxiliary materials, the technological process of production. Pharmaceutical Quality System (PQS). The quality of medicines: the concept, terminology, mechanisms and tools of state control. The personnel system of a pharmaceutical company within GMP: general requirements, organization of personnel. Key personnel. Authorized person. Premises and equipment of a pharmaceutical company within the GMP requirements. The technological process within the GMP requirements: proper documentation within the GMP and GCP requirements.	PD	EC	3	+	+			+	+	
12		Fundamentals of pharmaceutical engineering	Formation of students' key professional competencies in the basics of pharmaceutical engineering: The main issues of the life cycle of engineering systems and equipment at a pharmaceutical enterprise. The main elements of the structure of the engineering service. Classification of general engineering principles. GMP and GTP requirements.	PD	EC	3					+	+	+

13		Modern technologies of phytopreparations	The study of the discipline modern technologies for obtaining phytopreparations is aimed at the development of one of the modern and promising areas of pharmaceutical technology – the pharmaceutical industry of extraction preparations. Questions on modern equipment used in equipping the production of phytopreparations of various manufacturers, both domestic and foreign manufacturers, are proposed.	PD	EC	3		+		+			+
14		Development of a registration dossier for a medicinal product	Formation of students' key professional competencies for the development of a registration dossier for LP: Organization of examination of drugs for the purpose of their state registration. Submission and consideration of applications for state registration of medicinal products and submission of necessary documents. The decision on the state registration of drugs.	PD	EC	3	+	+			+	+	
15		Management and marketing in pharmacy	Management and marketing are one of the important pharmaceutical disciplines that form the professional knowledge, skills and abilities of a specialist working in the pharmaceutical market. The task of the discipline is to study theoretical concepts, categories, systems, tools, algorithms and trends of modern management in market conditions with adaptation to the specifics of pharmaceutical enterprises.	PD	EC	3	+		+			+	+
16		Marketing research complex	The marketing complex is a set of controllable variable marketing factors, the totality of which the firm uses in an effort to elicit the desired response from the target market, the marketing research complex is a marketing analysis tool, they have a specific purpose for the organization at a certain time interval.	PD	EC	3	+	+	+				+
17		Audit basics	Audit is an entrepreneurial activity for independent verification of accounting and financial (accounting) statements of organizations and individual entrepreneurs. The purpose of the audit is to express an opinion on the reliability of the financial (accounting) statements of the audited entities and compliance of the accounting procedure	PD	EC	3	+		+			+	+

			with the legislation of the Republic of Kazakhstan.										
18		The concept and principles of pharmaceutical logistics	Logistics is a developing industry created with the help of technological innovations, changes in the cost structure, the emergence of demand for new types of goods and services that will allow companies to ensure the profit of the company or enterprise, offers opportunities for rapid changes in the structure of the company under changing conditions	PD	EC	3	+		+			+	+
19		Chemistry of scented substances	Plant plants and raw materials are being studied, as well as the production of various medicinal forms from these plants. Formation of theoretical and practical knowledge about the physical properties, methods of obtaining and processing, methods of physico-chemical analysis of plant raw materials containing essential oils used for the production of medicines.	PD	EC	3		+		+	+	+	+
20		Validation of analytical techniques in the process of standardization of medicines	Study of the main validation characteristics, guidelines for validation of analytical techniques. Use and certification of standard samples for quality control of medicines. Pharmacopoeia standard sample. Standardized validation procedures for specific analysis methods. The general concept of a working standard sample.	PD	EC	5		+		+	+	+	+
21		New foundations for the development and standardization of herbal medicines	Scientific substantiation of new approaches to standardization of pharmacopoeia types of medicinal plant raw materials and medicinal herbal preparations. The chemical nature of biologically active compounds is considered as a methodological basis for the development of new approaches to the standardization of medicinal plant raw materials and medicinal herbal preparations.	PD	EC	4		+		+	+	+	+
22		Social aspects of pharmacy	The science that studies the main tasks of pharmaceutical activity, which is to maximize the desire of people to maintain their health by providing high-quality and qualified medical care, also lays down the basic principles and values that determine the role and responsibility of the pharmacist to society.	PD	EC	3	+		+	+		+	+

23		Registration of medicines according to the requirements of the EAEU	The state registration, re-registration and modification of the registration dossier of a medicinal product is carried out by the state control body for medical and pharmaceutical activities. An obligatory condition for state registration, re-registration, and making changes to the registration dossier is the examination of the medicinal product.	PD	EC	3	+	+		+	+	+	+
24		Rational use of medicines taking into account the age categories of patients	The main provisions of the policy of the concept of basic drugs, the most common types of irrational use of drugs, the causes and consequences of improper use of drugs. The necessity of studying the monitoring of the situation on the rational use of medicines is substantiated, evaluation indicators, the main directions of the rational use of medicines recommended by the World Health Organization are given.	PD	EC	3		+	+	+		+	
25		Good clinical practice	This standard ensures the scientific significance of research/trials, their ethical acceptability and full documentation of the clinical characteristics of the studied drug, confidence in the results obtained, as well as their recognition by authorized bodies of other countries. Compliance with this standard serves as a guarantee of the safety, well-being, security of the subjects, as well as the reliability of the data of the clinical trial /trial.	PD	EC	3		+		+			+
26		Manufacturing practice	The practical part of the educational process of training qualified workers and specialists, which takes place, as a rule, at various enterprises in real production conditions.	PD	MP	4	+	+	+	+	+	+	+