OŃTÚSTIK-QAZAQSTAN	2 allo	SOUTH KAZAKHSTAN	
MEDISINA	(SKMA)	MEDICAL	
AKADEMIASY	$\left(\mathbf{M}\right)$	ACADEMY	
«Оңтүстік Қазақстан медицина академиясы» АҚ		АО «Южно-Казахстанская меди	цинская академия»
Department of Chemical Disciplines		044 -52/	
Catalog of elective di	sciplines		2 беттің 1беті

Catalog of elective disciplines for the 2023-2024 academic year

- **1. Department:** of chemical disciplines
- 2. Level of preparation: baccalaureate
- **3. Specialty:** 6B10106 Pharmacy boosters
- **4. Course:** 1
- 5. Name of elective discipline: "Physical and colloid chemistry"

6. Amount of credits: 4

7. Purpose: To form knowledge of the general theoretical foundations of physical and colloid chemistry and train in the application of the knowledge and skills acquired during the analysis of medicinal substances at all stages of their manufacture and quality control of medicinal forms.

8. Tasks: - to form students' understanding of the patterns of the course of physicochemical processes.

- To give knowledge of the basic concepts and laws of thermodynamics.
- to form an idea about the properties of diluted solutions.

- to give an idea of the thermodynamics of electrolyte solutions, methods for measuring the pH of solutions, the properties of buffer solutions.

- to form an idea about the basic concepts and methods of electrochemistry.

- to give an idea of the kinetics of chemical reactions and catalysis.
- to form an understanding of dispersed systems and surface phenomena.

- to acquaint with physical and chemical methods of measurements.

9. Justification of the choice of discipline:

Physical and colloidal chemistry is one of the main disciplines in the field of pharmaceutical education, which has a significant role in the preparation of highly qualified specialists - pharmacists. This item forms chemical thinking, determines the patterns of physical and chemical processes and the conditions for achieving chemical equilibrium, teaches to analyze and draw conclusions about the influence of external factors, the nature of substances on the course of chemical reactions.

10. Justification of the choice of discipline: The formation of theoretical knowledge and practical skills of physical and chemical laws in the preparation of drugs is the basis of teaching physical and colloidal chemistry. Physical and colloidal chemistry is the basis of such special disciplines as pharmaceutical chemistry, technology of synthetic drugs, pharmacognosy. technology of phytopreparations, technology of medicines, etc. This implies the great importance of physical and colloidal chemistry as an important academic discipline, the development of which is given great importance in the system of pharmaceutical education.

11. Learning outcomes

Knowledge	Skills and abilities	Personal and professional	
(cognitive sphere)	(psychomotor sphere)	competencies (relationships)	
- the general theoretical	- solves all typical tasks in	- informs and explains the	
foundations of physical and	physical and colloid	observed patterns in the field of	
colloid chemistry for the	chemistry;	physical and physic chemist	
application of the acquired	- owns the skills of	chemistry regarding their use in	
knowledge and skills at all	experimental determination	pharmacy;	
stages of manufacturing and	of the thermal effect of	- transmits information obtained	
quality control of drugs;	chemical reactions.	from educational, reference,	
- general energy and kinetic	- able to determine the	scientific literature and Internet	
patterns of chemical	osmotic pressure of	resources;	

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processes;	solutions;	- demonstrates the ability to work	
- laws governing the	-prepare buffer solutions	in a team, conduct a discussion,	
physicochemical processes	with a given pH value.	discuss the results of laboratory	
and the conditions for	-determines the rate	work on physical and colloidal	
achieving chemical	constants of chemical	chemistry.	
equilibrium;	reactions.	- uses skills and abilities in the	
	- able to determine the	field of physical and colloid	
	coefficient of surface tension	chemistry to perform R & D,	
	of the liquid according to the	draws up the results in the form of	
	method of detachment of	an abstract, presentations, reports	
	drops;	and presents at meetings of the	
	- prepares stable colloidal	student circle, student scientific	
	systems and emulsions,	conferences, etc.	
	determines the degree of		
	their stability;		
	- determines the molecular		
	weight, size and degree of		
	swelling of the polymer.		

12. Prerequisites: inorganic chemistry.

13. Post requisites: analytical chemistry, organic chemistry, toxicological chemistry.

14. Literature

The main:

1. Belyaev A.P., Kuchuk V.I., Evstratova K.I., Kupina N.A. Physical and colloidal chemistry. M .: GEOTAR-Media 2008.

2. Verentsova L.G., Nechepurenko E.V. Inorganic, physical and colloid chemistry. –Almaty: Evero Publishing, 2014.

Additional:

1. Evstratova K.I., Kupina N.A., Malakhova N.E. Physical and colloidal chemistry. M .: High School. 1990

2. Krasnov K.S., Vorobev N.K., Godnev I.N. and others. Physical chemistry. In 2 books. M .: Higher School, 2001.

Additional:

1. Utelbaev B.T. Chemistry 2 vol. - Shymkent, 2000.

2. Musabekov K.B., bdiev K.ZH. Colloidty chemistry. Okulyk. - Almaty, 2011.

"Approved"

at the meeting of the

Department of Farm. and Tox. chemistry

- 1. **Department:** Kazakh, Russian and Latin languages
- 2. **Level of training:** bachelor degree
- 3. **Specialty:** Pharmacy(accelerated learning)
- 4. **Course:** 1
- 5. Name of elective discipline: Latin
- 6. **Number of credits:** 3

7. **Purpose:** to teach students to consciously and competently apply the terms of Greek-Latin origin in their future specialty.

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8. **Objectives:** at the end of the course the student's vocabulary should be 900 lexical units. The student must be able to correctly translate expressions, aphorisms and recipes, often used in Latin.

9. **Justification of the choice of discipline:** In providing the knowledge and skills necessary for the competent application of international nomenclature, clinical terms and recipes in Latin, as well as for meaningful perception and use of Greek-Latin word-building elements, the most important role belongs to the Latin course.

10. Learning outcomes (competencies):

Knowledge	Skills and abilities	Personal and professional	
(cognitive sphere)	(psychomotor sphere)	competencies	
		(relations)	
The student knows:	The student is able:	Student	
- letters of the alphabet and	- read and write in Latin;	1. finds in educational	
letter combinations;	- translate terms and phrases	and scientific literature	
- features of reading and	from Kazakh/Russian into	information on the topic;	
pronunciation of letters and	Latin and Vice versa;	2. evaluates and uses the	
letter combinations;	- to make the Latin part of a	results of research, explains	
- declension of nouns and	prescription;	their causal relationship;	
adjectives;	- highlight in the structure of	3. makes its own	
- coordination of adjectives	the terms of term elements,	conclusions, presents them	
with nouns;	frequency segments in the	publicly, in information	
- conjugation of verbs and	names of drugs and explain	networks;	
prescription formulations with	their meanings;	4. it is guided in	
verbs;	- correctly writes the names of	normative documents on the	
- the structure of the recipe	international nonproprietary	studied material;	
and the rules of registration of	names of drugs;	5. able to use in their	
its Latin part, prescription	- use deontological	work computer technology;	
abbreviations	commandments, Latin	6. abides by ethical and	
- prepositions, numerals,	expressions of professional	legal standards;	
pronouns used in	ethics in different situations.	7. has critical thinking, is	
pharmaceutical terminology;		creative;	
- Latin expressions and		8. able to work as a	
aphorisms often used in		team;	
medicine and pharmacy;		9. seeks to know the	
- Greek-Latin elements in the		equivalents of Latin terms in	
structure of terms;		other languages.	
- knows methods of word-			
formation of trivial names of			
medicinal substances and			
frequency segments in them.			

11. Prerequisites: No

12.Post-requisites: Pharmacology, technology of dosage forms.

13. Literature:

Basic:1. 1. M. N.Chernyavsky. Latin language and the fundamentals of pharmaceutical terminology. M.: GEOTAR-Media, 2015.

2. Bukharina T. L., Novodranova V. F., Mikhina T. V. Latin language: textbook. manual-Moscow: GEOTAR-Media, 2015.-496 p.

3. A. N. Kasymbekova. Latin language. Karaganda, "Aknur" 2019.

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Additional : 1. Kozybayeva A. K. Latin language: educational and methodical manual. - Karaganda: IP "JSC Nur", 2012

2.M. A. Akhmetov. Dictionary of medical terms. Russian-Kazakh-English. Almaty: Dyk-Press, 2009

3. M. N.Chernyavsky. Latin language and bases of medical terminology. M.: Shiko, 2007.

4. Latin language for medical faculties: studies. manual/ M. N. Nechay.- Rostov n/A: Phoenix, 2007.