



<p style="text-align: center;">             ОҢТҮСТІК ҚАЗАҚСТАН  <b>MEDISINA</b>  <b>AKADEMIASY</b>              «Оңтүстік Қазақстан медицина академиясы» АҚ           </p>		<p style="text-align: center;">   <b>SKMA</b>              - 1979 -  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>
<p style="text-align: center;">             Department of Biology and Biochemistry              Department of Pathology and Forensic Medicine              Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology              Department of Propaedeutics and Internal Medicine              Department "Pediatrics-1"           </p>		<p style="text-align: right;">             041- /11              Page 1of 36           </p>
<p style="text-align: center;">             Working programme of the discipline "Nervous system and organs of sense and vision in pathology " ( Syllabus )              Educational program 6B10115 "Medicine"           </p>		

## Syllabus

**Department of Biology and Biochemistry**  
**Department of Pathology and Forensic Medicine**  
**Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology**  
**Department of Propaedeutics and Internal Medicine**  
**Department of Pediatrics-1**

**Working programme of the discipline "Nervous system and organs of sense and vision in pathology "**  
**Educational program 6B10115 "Medicine"**

1.	General information about the discipline		
1.1	Discipline code: NSOSVP 3301	1.6	Academic year: 2024-2025
1.2	Course title: Nervous system and organs of sense and vision in pathology	1.7	Course: 3
1.3	Prerequisites: General pathology, the normal nervous system and sense organs and vision	1.8	Semester : 6
1.4	Postrequisites: Diseases of the nervous system, sensory organs and vision	1.9	Number of credits ( ECTS ): 6 / 180
1.5	Cycle: BD	1.10	Component : UC
2.	Description of the discipline		
Discipline " Nervous system and organs of sense and vision in pathology " involves studying the basics of semiotics, syndromology, the main parameters of laboratory tests, issues of etiology, pathogenesis, morphogenesis, morphology, acquiring skills in choosing medications to determine the main syndromes and symptoms in pathology of the nervous system and sensory organs and vision, which will allow the future specialist to apply the acquired knowledge for diagnosis, treatment, prevention of diseases, acquire skills in clinical thinking and research.			
3.	Summative Assessment Form		
3.1	<input checked="" type="checkbox"/> Testing	3.5	Coursework
3.2	Writing	3.6	Essay
3.3	Oral	3.7	Project
3.4	<input checked="" type="checkbox"/> OSPE/OSKE or practical skills assessment	3.8	Other (specify)
4.	Objectives of the discipline		
1. Formation of a holistic understanding of the pathology of the nervous system and sensory and visual organs, based on symptoms and syndromes, as well as on methods of their study. 2. Ensuring the achievement of the final learning outcomes based on the joint study of the pathology of the nervous system and sensory organs and vision in the propaedeutics of internal and childhood diseases with fundamental disciplines . 3. Development of clinical thinking skills based on knowledge of pathophysiological mechanisms of the course, pathological changes, complications and outcomes of diseases, physical and clinical laboratory methods of examination and selection of drugs in adults and children with the main clinical syndromes in pathology of the nervous system and sensory organs and vision . 4. Development of research skills through the analysis of scientific articles, analysis of experimental studies and project activities.			
5.	Final learning outcomes (LO of the discipline)		
LO1	Demonstrates knowledge and understanding of the basics of semiotics and syndromology, etiology, pathogenesis and morphogenesis of pathology of the nervous system and sensory organs and vision.		
LO2	Proficient in methods of conducting questioning, physical examination of adults and children, uses clinical thinking in collecting information when drawing up an examination plan; outlines the scope of basic and additional studies to clarify the syndrome of damage in pathology of the nervous system and sensory organs and vision .		
LO3	Uses clinical judgment in gathering information when interpreting morphological, laboratory And instrumental research methods patients with pathology of the nervous system and sensory organs and vision , formulates a		

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	syndromic diagnosis , fills out a medical history.					
LO4	Communicates information, ideas, problems and solutions to patients and their family members, and is proficient in ethical and deontological practices when communicating with patients, their relatives and colleagues.					
LO5	Determines pathological processes on organ And cellular levels, interprets data O pathophysiology And morphology diseases With taking into account clinical data patients, does conclusions, will explain regularities development complications And outcomes pathologies of the nervous system and sensory organs and vision , evaluates results experimental research.					
LO6	Selects medications in accordance with the diagnosis, writes prescriptions, determines the dosage regimen, recognizes adverse effects of medications, predicts the development of side effects and interactions of medications used in pathologies of the nervous system and sensory organs and vision.					
LO7	Analyzes professional literature when working with scientific articles, completes a project, demonstrates a desire for continuous improvement of his/her activities .					
5.1	LO discipline	Learning outcomes of the EP, which are associated with the discipline LO				
	LO 1	LO 1 Apply fundamental knowledge in the field of biomedical, clinical, epidemiological and social-behavioral sciences in practice.				
	LO 2					
	LO 3	LO 2 Provides patient-centered care in the biomedical, clinical, epidemiological and social-behavioral sciences aimed at the diagnosis, treatment and prevention of the most common diseases.				
	LO 4					
	LO 5	LO 6 Conducts admission, diagnostics, treatment, dynamic observation and rehabilitation of pediatric and adult patients, including pregnant women, based on the principles of evidence-based medicine.				
LO 6						
	LO7	LO 11 Analyzes the results of the conducted research and his/her professional activities based on scientific data .				
6.	Detailed information about the discipline					
6.1	<ul style="list-style-type: none"><li>Location of the Department of Biology and Biochemistry : Shymkent , Al-Farabi sq. , 1, main academic building of SKMA , 4th floor .</li><li>Location of the Department of Pathology and Forensic Medicine : Shymkent, Al-Farabi sq. , 3, academic building No. 2 SKMA , 4th floor, classroom No. 404 a,b,№ 406, No. 408, No. 409, No. 411 a,b; e-mail: <a href="mailto:Patan.gisto@mail.ru">Patan.gisto@mail.ru</a></li><li>Location of the Department of Pharmacology, Pharmacotherapy and Clinic of Pharmacology : Shymkent, Al-Farabi Ave., 1, main educational building of SKMA , 4th floor , room No. 419, No. 421, No. 425, No. 429, No. 431, No. 434, No. 417, lecture hall No. 4 ;</li><li>Location of the Department of Internal Medicine : Shymkent, clinic "ParkHealth", Kurmanbekov st., 2; tel : 8 701 738 6114, e-mail: <a href="mailto:propedevtica_vb@mail.ru">propedevtica_vb@mail.ru</a></li><li>Location of the Department of Pediatrics-1 : Shymkent , Argynbekov St., 125, Regional Children's Hospital; e-mail: <a href="mailto:ped.rez@mail.ru">ped.rez@mail.ru</a></li></ul>					
6.2	Number of hours	Lectures	Practical. les.	Lab..	SIWT	SIW
		12	48		17	103
6.3	Study plan for the discipline					

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Days		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Watch
Form of the lesson																	
Propaedeutics of internal diseases (1.5 cr. )	Lec	1					1				1						3
	Practical 1	3					3				3					3	12
	SIWT	1					1				2					1	5
	SIW	6					6				5					4	21+ 4 (IA)= 25
Pathophysiology (1 cr.)	Lec		1					1									2
	Practical 1		3					3					2				8
	SIWT		1					1					1				3
	SIW		4					4					6				14+3(IA)= 17
Pathological anatomy (1 cr.)	Lec			1						1							2
	Practical 1			3						3					2		8
	SIWT			1						1					1		3
	SIW			4						4					6		14+3(IA)= 17
Pharmacology (1 cr.)	Lec					1								1			2
	Practical 1					2			3					2		1	8
	SIWT					1			1							1	3
	SIW					2			6							6	14+3(IA)= 17
Propaedeutics of children diseases (1 cr.)	Lec				1							1					2
	Practical 1				3							3		2			8
	SIWT				1							1		1			3
	SIW				4							5		5			14+3(IA)= 17
Biochemistry (0.5 cr.)	Lec												1				1
	Practical 1			1		1							1		1		4
	SIWT					1											1
	SIW					7											7 +2(IA)= 9

## 7. Information about teachers

No.	Full name	Degrees and Position	Email address
Department of Biology and Biochemistry			
1	Kenzhebekov P.K.	Candidate of Chemical Sciences, Professor	kenzhebekov.p@gmail.com
2	Ordabekov A.B.	Master of Biology, Senior Lecturer	asmira75@mail.ru
3	Asylbekova G.K.	Master of Biology, Senior Lecturer	shahats@mail.ru
4	Kanzhiritova M.Zh.	Master of Biology, Senior Lecturer	Molya_1503@mail.ru
5	Zhienbayeva A.A.	Master of Biology, Senior Lecturer	alia.zhienbaeva@mail.ru
Department of Pathology and Forensic Medicine			
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**Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology**

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4	Syrmanova Nurgul Rakhmanovna	Master of Medical Sciences, Senior teacher	n _ rakchman @mail.ru
5	Muyutova Makhsuda Nasyrovna	Master of Medical Sciences, Senior teacher	mahsu_med@mail.ru
6	Saparbekova Aigul Nurkhodzhakzy	teacher	
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**Department of Propaedeutics and Internal Medicine**

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**Department of Pediatrics-1**

1	Kemelbekov Kanatzhan Sauhanbekovich	PhD	<a href="mailto:Kanat-270184@mail.ru">Kanat-270184@mail.ru</a>
2	<u>Mustafina Kenzhegul Akhmetovna</u>	docent	sayat.mka@mail.ru
3	Baimakhanova Bakhtygul Bimendievna	Candidate of medical sciences, acting docent	Bakhtigul059@mail.ru
4	Absadyk Aidana Erseitkyzy	assistant	aidana.absadyk@mail.ru
5	Baltabaeva Botakoz Serikyzy	assistant	Boti.asik@mail.ru

**8. Thematic plan**

Day	Form classes	Name topics	Summary	LO module	Qty- in	Forms/ methods/	Forms/ evaluation
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					hours	learning technologies	methods
1	Propaedeutics of internal diseases Lecture 1	Methods of research of patients with pathology of the nervous system. Diagnostic value.	The method of questioning complaints, the anamnesis of the disease and the life of a patient with a pathology of the nervous system; The method of external and local examination of a patient with a pathology of the nervous system. General symptomatology of nervous system damage. Methods of examination of neurological status in adults: examination, palpation, determination of tendon reflexes.	LO2	1	Overview lecture	Quick poll Feedback
	Propaedeutics of internal diseases Practical lesson 1	Methods of research of patients with pathology of the nervous system. Diagnostic value.	The method of questioning complaints, the anamnesis of the disease and the life of a patient with a pathology of the nervous system; The method of external and local examination of a patient with a pathology of the nervous system. General symptomatology of nervous system damage.	LO2 LO3 LO4	3	Discussion of the practical lesson topic, solving situational problems, learning and performing practical skills	Oral interview checklist, assessment of practical skills.
	Propaedeutics of internal diseases SIWT/SIW 1	Instrumental research methods for patients with diseases of the nervous system.	Instrumental research methods for patients with diseases of the nervous system.	LO3 LO5	1/6	Preparation and protection of presentation.	Checklist
2	Pathological physiology. Lecture 1	Etiology and pathogenesis of nervous disorders	General etiology and pathogenesis of nervous disorders . Pathology of the neuron. Generator of pathologically increased excitation, pathological determinant, pathological system. Typical pathological processes in the nervous system. Clinical significance	LO1	1	Overview lecture	Quick poll Feedback
	Pathological physiology. Practical lesson 1	Etiology and pathogenesis of nervous disorders	General etiology and pathogenesis of nervous disorders . Pathology of the neuron. Generator of pathologically increased excitation, pathological determinant, pathological system. Typical pathological processes in the nervous system. Clinical significance	LO3 LO5	3	Work in small groups, discussion of the topic, case - study	Checklist

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	Pathological physiology. SIWT/SIW 1	Convulsive syndrome	Convulsions , concept, types. Causes and mechanisms of development of convulsive syndrome, manifestations. Clinical significance	LO3 LO5	1/4	Case study	Checklist
3	Pathological anatomy . Lecture 1	Cerebrovascular diseases	Hemorrhagic and ischemic stroke. Etiology, pathogenesis, morphogenesis, pathological anatomy, complications, outcome, causes of death. Clinical significance	LO1	1	Overview lecture	Quick poll Feedback
	Pathological anatomy . Practical lesson 1	Cerebrovascular diseases	Hemorrhagic and ischemic stroke. Etiology, pathogenesis, morphogenesis, pathological anatomy, complications, outcome, causes of death. Clinical significance	LO3 LO5	3	Discussion of the topic, description of macro- and micropreparations with a conclusion , case - study	Checklist
	Pathological anatomy . SIWT/SIW 1	Degenerative changes in the brain	Alzheimer's disease. Etiology, pathogenesis, morphogenesis, pathological anatomy, complications, outcome, causes of death. Clinical significance	LO3 LO5	1/4	Case study	Checklist
	Biochemistry Practical lesson 1	Neurotransmitters: their synthesis, regulation, and role in pathologies of the nervous system.	Neurotransmitters: their synthesis, regulation, and role in pathologies of the nervous system.	LO3 LO5	1	Overview lecture	Quick poll Feedback
4	Propaedeutics of children diseases Lecture 1	Healthy child. Stages of childhood and features of each. Features of the development of the nervous system in children of different ages. Basic research methods	Morphological and functional features of the child's brain. Growth and differentiation of CNS structures. Timing of the formation and extinction of the basic reflexes of newborns. Patterns of formation of motor activity.	LO1	1	Overview lecture	Quick poll Feedback
	Propaedeutics of children diseases Practical lesson 1	Healthy child. Stages of childhood and features of each. Features of the development of the nervous system in children of different ages.	Factors affecting neuropsychiatric development. Methodology for assessing the neuropsychiatric development of a newborn, a child of the first year of life, children over three year and older children. Examination of the newborns. Assessment of head size, large	LO3 LO5	3	Discussion of the practical lesson topic, solving situational problems, learning and performing practical	Checklist



		Basic research methods	fontanel and suture condition. Assessment of the condition of 12 pairs of cranial nerves.			skills	
	Propaedeutics of children diseases SIWT/SIW 1	Peculiarities of sensory organs development.	Development, age-related features of sensory organs. Types of sensitivity	LO3 LO5	1/4	Preparation and protection of presentation.	Checklist
5	Pharmacology Lecture 1	Drugs affecting the central nervous system. Psychotropic drugs.	Classification of drugs. Mechanism of action. Main pharmacological effects. Indications, contraindications. Comparative characteristics of drugs and use. Features of use in children.	LO1	1	Overview lecture	Quick poll Feedback
	Pharmacology Practical lesson 1	Psychotropic drugs. CNS depressants.	CNS depressants (neuroleptics, tranquilizers, normothymic drugs, sedatives). Classification. Mechanism of action. Main pharmacological effects. Indications for use, contraindications. Comparative characteristics of drugs. Features of use in children.	LO3 LO5	2	Work in small groups, discussion of the topic, case - study	Checklist
	Pharmacology SIWT/SIW 1	Medicines used in diseases of the nervous system. Antiepileptic drugs. Antiparkinsonian drugs.	Classification. Mechanism of action. Main pharmacological effects. Conservative treatment of epilepsy. Advantages of modern antiepileptic drugs, features of use in children. Drugs used in Parkinsonism.	LO3 LO5	1/2	Discussion of the topic, presentation defense, essay, analysis of scientific articles, glossary	Checklist
	Biochemistry Practical lesson 2	Metabolic disorders in mental illnesses.	Metabolic disorders in mental illnesses.	LO3 LO5	1		Checklist
	Biochemistry SIWT/SIW 1	"Biochemical aspects of pathology of the nervous system, sensory organs and vision."	"Biochemical aspects of pathology of the nervous system, sensory organs and vision."	LO3 LO5	1 /7		Checklist
6	Propaedeutics of internal diseases Lecture 2	The leading clinical syndromes (meningeal) in neurology. Diagnostic value.	The principles of questioning, anamnesis collection, and an objective method of examining patients with leading clinical syndromes (meningeal) of the nervous system.	LO2	1	Overview lecture	Quick poll Feedback
	Propaedeutics of internal diseases Practical lesson 2	Methods of examination of neurological status in adults.	Methods of examination of the neurological status in adults: examination, palpation, determination (physiological	LO2 LO3 LO4	3	Discussion of the practical lesson topic, solving	Checklist

			and pathological) of tendon reflexes (stiffness of the muscles of the occiput, Kernig's symptoms, upper and lower Brudzinsky's symptoms, Babinsky's symptom, etc.).			situational problems, learning and performing practical skills	
	Propaedeutics of internal diseases SIWT/SIW 2	Laboratory and research methods for patients with diseases of the nervous system	Laboratory methods for the study of patients with diseases of the nervous system (cerebrospinal fluid analysis).	LO2 LO3	1/6	Preparation and protection of presentation.	Checklist
7	Pathological physiology. Lecture 2	Neurogenic movement disorders	Typical forms of neurogenic movement disorders. Hypo- and hyperkinesia , hypodynamia, ataxia, concept, types, development mechanisms, manifestations. Clinical significance	LO1	1	Overview lecture	Quick poll Feedback
	Pathological physiology. Practical lesson 2	Neurogenic movement disorders	Typical forms of neurogenic movement disorders. Hypo- and hyperkinesia , hypodynamia, ataxia, concept, types, development mechanisms, manifestations. Clinical significance	LO3 LO5	3	Work in small groups, discussion of the topic, case - study	Checklist
	Pathological physiology. SIWT/SIW 2	Pathology of the sense organs and vision	Disorders of the functions of the visual, auditory, gustatory and olfactory analyzers, causes, mechanisms of development, manifestations. Clinical significance	LO3 LO5	1/4	Case study	Checklist
8	Pharmacology Practical lesson 2	Psychotropic drugs. CNS stimulants.	CNS stimulants (antidepressants, psychostimulants, nootropics, adaptogens). Classification. Mechanism of action. Main pharmacological effects. Indications for use, contraindications. Comparative characteristics of drugs. Features of use in children.	LO3 LO5	3	Work in small groups, discussion of the topic, case - study	Checklist
	Pharmacology SIWT/SIW 2	Principles of drug therapy for depressive syndrome.  <b>Border control № 1</b>	The main group of drugs for the treatment of depression are antidepressants. Neuroleptics, tranquilizers, sleeping pills for depressive syndrome.  <b>Topics of lectures, practical classes, independent work, covered during 1-8 days of training</b>	LO1 LO2 LO3 LO4 LO5 LO6	1/6	Integrated monitoring of educational achievements using control training cases, testing	Checklist



9	Pathological anatomy . Lecture 2	Inflammatory diseases of the brain	Meningitis, encephalitis. Etiology, pathogenesis, morphogenesis, pathological anatomy, complications, outcome, causes of death. Clinical significance	LO1	1	Overview lecture	Quick poll Feedback
	Pathological anatomy . Practical lesson 2	Inflammatory diseases of the brain	Meningitis, encephalitis. Etiology, pathogenesis, morphogenesis, pathological anatomy, complications, outcome, causes of death. Clinical significance	LO3 LO5	3	Discussion of the topic, description of macro- and micropreparations with a conclusion , case - study	Checklist
	Pathological anatomy . SIWT/SIW 2	Tumors of the central nervous system	Tumors of the nervous system and peripheral nerves. Etiology, pathogenesis, morphogenesis, pathological anatomy, complications, outcome, causes of death. Clinical significance	LO3 LO5	1/4	case - study	Checklist
10	Propaedeutics of internal diseases Lecture 3	The leading clinical syndromes (disorders of cerebral circulation) in neurology. Diagnostic value.	Principles of questioning, anamnesis collection, and an objective method of examining patients with leading clinical syndromes (disorders of cerebral circulation) of the nervous system.	LO2	1	Overview lecture	Quick poll Feedback
	Propaedeutics of internal diseases Practical lesson 3	The leading clinical syndromes (meningeal) in neurology. Diagnostic value.	The principles of questioning, anamnesis collection, and an objective method of examining patients with leading clinical syndromes (meningeal) of the nervous system.	LO2 LO3 LO4	3	Discussion of the practical lesson topic, solving situational problems	Checklist
	Propaedeutics of internal diseases SIWT/SIW 3	The leading clinical syndromes (meningeal) in neurology. Diagnostic value.	The principles of questioning, anamnesis collection, and an objective method of examining patients with leading clinical syndromes (meningeal) of the nervous system.	LO2 LO3	2/5	Preparation and protection of presentation.	Checklist
11	Propaedeutics of children diseases Lecture 2	Clinical syndromes in pathologies of the nervous system.	Features of damage to the nervous system in children: convulsive syndrome. meningeal syndrome, disorders of consciousness, sleep. The concept of neuroses. CNS lesions in newborns and infants.	LO1	1	Overview lecture	Quick poll Feedback
	Propaedeutics of children diseases Practical lesson 2	Clinical syndromes in pathologies of the nervous system.	Principles of questioning, anamnesis collection, and an objective method of examining sick children of different age groups with neurological	LO3 LO5	3	Discussion of the practical lesson topic, solving situational	Checklist

			disorders. Semiotics of deviations in the child's psychomotor development. Semiotics of nervous system damage. Neuropsychiatric development of children in different age periods.			problems, learning and performing practical skills	
	Propaedeutics of children diseases SIWT/SIW 2	Congenital malformations and abnormalities of central nervous system.	Main causes, pathogenesis, clinical manifestations, diagnosis.	LO3 LO5	1/5	Preparation and protection of presentation.	Checklist
12	Pathological physiology. Practical lesson 3	Neurogenic sensory disturbances. Pathophysiology of pain	Typical forms and general mechanisms of sensitivity disorders. Anesthesia, hyper- and hypoesthesia. Pain, types, causes and mechanisms of formation. Antinociceptive system. Clinical significance	LO3 LO5	2	Work in small groups, discussion of the topic, case - study	Checklist
	Pathological physiology. SIWT/SIW 3	Disorders of higher nervous activity. Neuroses	Pathology of higher nervous activity, types, causes, mechanisms of development and compensation, manifestations. Neuroses, concept, types, etiology. Clinical significance	LO3 LO5	1/6	Case study	Checklist
	Biochemistry Lecture 1	Biochemical aspects of pathology of the nervous system, sensory organs and vision.	Biochemical aspects of pathology of the nervous system, sensory organs and vision	LO1	1		Quick poll Feedback
	Biochemistry Practical lesson 3	Retinal biochemistry and visual pathology. Investigation of the role of rhodopsin in photoreception.	Retinal biochemistry and visual pathology. Investigation of the role of rhodopsin in photoreception.	LO3 LO5	1		Checklist
13	Pharmacology Lecture 2	Hypnotics. Analgesics.	Hypnotics. Analgesics. Comparative characteristics of drugs. Features of use in children.	LO1	1	Overview lecture	Quick poll Feedback
	Pharmacology Practical lesson 3	Hypnotics. Analgesics.	Hypnotics. Analgesics. Classification. Mechanism of action. Main pharmacological effects. Indications for use, contraindications. Comparative characteristics of drugs. Features of use in children.	LO3 LO5	2	Work in small groups, discussion of the topic, case - study	Checklist


	Propaedeutics of children diseases Practical lesson 4	Clinical syndromes in pathologies of the nervous system.	Principles of questioning, anamnesis collection, and an objective method of examining sick children of different age groups with neurological disorders. Features of clinical methods of examination of children: assessment of the level of neuropsychiatric development of the child according to age, assessment of consciousness, syndromes of rigidity of occipital muscles, Kernig, Brudzinsky symptoms.	LO3 LO5	2	Discussion of the practical lesson topic, solving situational problems, learning and performing practical skills	Checklist
	Propaedeutics of children diseases SIWT/SIW 3	Behavioral and emotional disorders in children.	Attention deficit disorder. Hyperactivity disorder in children	LO3 LO5	1/5	Preparation and protection of presentation.	Checklist
14	Pathological anatomy . Practical lesson 3	Pathological anatomy of inflammatory and metabolic diseases of the sense organs	Inflammatory diseases of ENT organs. Sinusitis, otitis, tracheitis, pharyngitis, laryngitis. Sialadenitis, glossitis, stomatitis. Tumors of the oral cavity. Etiology, pathogenesis, pathological anatomy, outcomes, complications, causes of death	LO3 LO5	2	Discussion of the topic, description of macro- and micropreparations with a conclusion , case - study	Checklist
	Pathological anatomy . SIWT/SIW 3		Eye diseases: inflammatory diseases of the eye and auxiliary apparatus of the eye, retinopathy, karataract, glaucoma. Etiology, pathogenesis, pathological anatomy, outcomes, complications, causes of death	LO3 LO5	1/6	Case study	Checklist
	Biochemistry Practical lesson 4	Brain metabolism.	Brain metabolism. A nervous impulse. Molecular mechanisms of synaptic transmission.	LO3 LO5	1		Checklist
15	Propaedeutics of internal diseases Practical lesson 4	The leading clinical syndromes (disorders of cerebral circulation) in neurology. Diagnostic value.	Principles of questioning, anamnesis collection, and an objective method of examining patients with leading clinical syndromes (disorders of cerebral circulation) of the nervous system.	LO2 LO3 LO4	3	Discussion of the practical lesson topic, solving situational problems	Checklist
	Propaedeutics of internal diseases SIWT/SIW 4	Methods of examination of neurological status in adults.	Methods of examination of the neurological status in adults: examination, palpation, determination (physiological and pathological) of tendon	LO4	1/4	Assimilation and implementation of practical skills.	Checklist

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			reflexes (stiffness of the muscles of the occiput, Kernig's symptoms, upper and lower Brudzinsky's symptoms, Babinsky's symptom, etc.).				
	Pharmacology Practical lesson 4	Modern methods of treatment of ischemic and hemorrhagic stroke.	Principles of drug therapy for stroke. Modern methods of treatment of ischemic and hemorrhagic stroke. Pharmacotherapy of cerebrovascular disorders.	LO3 LO5	1	Work in small groups, discussion of the topic, case - study	Checklist
	Pharmacology SIWT/SIW 3	Neurological drugs. General principles of pharmacotherapy of meningitis.  <b>Border control № 2</b>	Neurological drugs. General principles of pharmacotherapy of meningitis.  <b>Topics of lectures, practical classes, independent work, covered during 9-16 days of training</b>	LO1 LO2 LO3 LO4 LO5 LO6	1/ 6	Integrated monitoring of educational achievements using control training cases, testing	Checklist
8.1	Interim assessment						18 hours
9.	Teaching methods						
9.1	Lectures		Overview lectures				
9.2	Practical classes		Work in small groups , discussion of the topic, case study , description of macro- and micropreparations with conclusion				
9.3	SIWT/SIW		C ase - study , analysis of scientific articles, project implementation				
9.4	Midterm		Integrated monitoring of educational achievements using control educational cases , testing				
10.	Evaluation criteria						
10.1	Criteria for assessing the results of the discipline						
No. LO	Name of learning outcomes	Unsatisfactory	Satisfactorily	Good	Excellent		
LO 1	Demonstrates knowledge and understanding of the basics of semiotics and syndromology, etiology, pathogenesis and morphogenesis of pathology of the nervous system and sensory organs and vision	1. Does not know the basics of semiotics and syndromology, does not identify symptoms and syndromes. 2. Cannot explain the etiology , pathogenesis and morphogenesis of pathological changes in the nervous system and sense organs and vision	1. Does not have a basic understanding of semiotics and syndromology , makes gross errors in determining symptoms and syndromes in pathologies of the nervous system and sensory organs and vision. 2. Makes mistakes when explaining etiology, pathogenesis and morphogenesis of pathological changes in the nervous system	1. Has a basic understanding of semiotics and syndromology , and can identify symptoms and syndromes. 2. Explains the etiology, pathogenesis and morphogenesis of pathological changes in the nervous system and organs of sense and vision, but allows for fundamental inaccuracies	1. Fluent basics semiotics and syndromology , independently determines symptoms and syndromes. 2. Freely explains the etiology , pathogenesis and morphogenesis of pathological changes in the nervous system and organs of sense and vision		

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			and sense organs and vision		
LO2	Has knowledge of methods of conducting questioning, physical examination of adults and children, uses clinical thinking in collecting information when drawing up an examination plan; outlines the scope of basic and additional studies to clarify the syndrome of damage in pathology of the nervous system and sensory organs and vision	1. Does not know the basic physiological processes of the nervous system and the organs of sense and vision, does not understand the regulation of the nervous system.	1. Makes mistakes in describing the basic physiological processes of the nervous system and the organs of sense and vision, in explaining the regulation of the nervous system. 2. He can explain the mechanisms of the nervous system and the organs of sense and vision with errors.	1. Characterizes the basic physiological processes of the nervous system and the senses and vision, understands the regulation of the nervous system and the functions of the senses and vision. 2. Can fully explain the mechanisms of the nervous system and the process of sensory organs and vision	1. Exhibits the basic physiological processes of the nervous system and sensory organs and vision, deeply understands the regulation of the nervous system and sensory organs and vision. 2. It is able to draw the mechanisms of the nervous system and the process of sensory organs and vision.
LO 3	Uses clinical thinking in collecting information when interpreting the results of morphological, laboratory and instrumental methods of examining patients with pathology of the nervous system and sensory organs and vision , formulates a syndromic diagnosis , fills out a medical history	1. Does not know the main metabolic pathways affecting the nervous system and the functions of the senses and vision. 2. Does not understand the biochemical processes related to the nervous system and the organs of sense and vision.	1. They do not fully know the main metabolic pathways that affect the functioning of the nervous system and the organs of sense and vision. 2. Poorly understands the biochemical processes related to the nervous system and the organs of sense and vision.	1. Explains the main metabolic pathways that affect the functioning of the nervous system and the organs of sense and vision. 2. Understands well the biochemical processes related to the nervous system and the organs of sense and vision.	1. Possesses clinical thinking skills, uses knowledge in collecting information when interpreting the results of morphological, laboratory and instrumental research methods for patients with pathologies of the nervous system and sensory and visual organs. 2. Formulates a syndromic diagnosis, fills out a medical history. 3. Effectively solves situational problems
LO 4	Communicates information, ideas, problems and solutions to patients and their family members, and is proficient in ethical and deontological practices when interacting with patients, their relatives and colleagues	He is unable to apply knowledge about the nervous system in a clinical context, has not acquired the skills to collect a clinical history and physical examination of patients with diseases of the nervous system for first aid, is unable to	He is not fully able to apply knowledge about the nervous system in a clinical context, collects clinical anamnesis and physical examinations of patients with diseases of the nervous system	Lists information about the nervous system in a clinical context, collects clinical anamnesis and physical examinations of patients with diseases of the nervous system with	He freely demonstrates knowledge about the nervous system in a clinical context, collects clinical anamnesis and physical examinations of patients with



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		interpret the results of laboratory and instrumental studies	for first aid with errors, is poorly oriented in interpreting the results of laboratory and instrumental studies.	first aid, is well-versed in interpreting the results of laboratory and instrumental studies.	diseases of the nervous system with first aid, is well-versed in interpreting the results of laboratory and instrumental studies.
LO 5	Determines pathological processes at the organ and cellular levels, interprets data on the pathophysiology and morphology of diseases taking into account the clinical data of patients, makes conclusions, explains the patterns of development of complications and outcomes of pathology of the nervous system and sensory organs and vision , evaluates the results of experimental studies	<p>1. Is unable to identify pathological processes at the organ and cellular levels, makes gross errors .</p> <p>2. Cannot interpret data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients .</p> <p>3. Makes erroneous conclusions, has poor orientation and does not explain the patterns of development of complications and outcomes of pathology of the nervous system and sensory and visual organs.</p> <p>4. Is unable to evaluate the results of experimental studies and makes fundamental mistakes.</p> <p>5. Incapable of solving situational problems</p>	<p>1. Determines pathological processes at the organ and cellular levels, but makes gross errors.</p> <p>2. Cannot independently interpret data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients .</p> <p>3. Makes erroneous conclusions , finds it difficult to independently explain the patterns of development of complications and outcomes of pathology of the nervous system and sensory and visual organs.</p> <p>4. Finds it difficult to evaluate the results of experimental studies and makes fundamental inaccuracies .</p> <p>5. Solves situational problems , but makes fundamental mistakes</p>	<p>1. Determines pathological processes at the organ and cellular levels .</p> <p>2. Interprets data on the etiology, pathophysiology and morphology of diseases , taking into account the clinical data of patients .</p> <p>3. Draws conclusions, explains the patterns of development of complications and outcomes of pathology of the nervous system and sense and visual organs.</p> <p>4. Appreciates the results of experimental studies , but allows for unfundamental inaccuracies.</p> <p>5. Solves situational problems</p>	<p>1. Independently identifies pathological processes at the organ and cellular levels .</p> <p>2. Independently interprets data on the etiology, pathophysiology and morphology of diseases, taking into account the clinical data of patients .</p> <p>3. Draws conclusions, explains the patterns of development of complications and outcomes of pathology of the nervous system and sense and visual organs.</p> <p>4. Evaluates the results of experimental studies .</p> <p>5. Effectively solves situational problems</p>
LO 6	Selects medications in accordance with the diagnosis, writes prescriptions, determines the dosage regimen, recognizes adverse effects of medications, predicts the	<p>1. It defines a general pharmacological group of drugs .</p> <p>2. writes out a prescription with errors</p>	<p>1. Selects a pharmacological group of drugs by organs and systems .</p> <p>2. Writes out a prescription using reference literature/</p>	<p>1. Selects medications for the treatment and prevention of the most common diseases .</p> <p>2. Writes out a</p>	<p>1. Selects drugs from various pharmacological groups in accordance with indications for use, contraindications</p>



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	development of side effects and interactions of medications used in pathologies of the nervous system and sensory organs and vision		sources	prescription for the specified medication without errors . 3. Calculates the dose of the medicine	and side effects 2. Writes out a prescription for medications in the most appropriate dosage form depending on age, gender, and functional characteristics . 3. Calculates doses using various methods and determines the frequency and duration of use of the drug
LO 7	Analyzes professional literature when working with scientific articles, carries out a project, demonstrates a desire for continuous improvement of his/her activities	1. Does not have research skills . 2. Does not have a desire for continuous self-education and development	1 . Cannot analyze by topic of classes. 2. Participates in the implementation of the project . 3. Violates deadlines for completing tasks	1. Analyzes scientific articles on the topics of the lesson . 2. Participates in the implementation of the project . 3. Completes assignments on time	1. Analyzes scientific articles on the topics of the lesson. 2. And uses international databases at work 3. Successfully defends the completed project . 4. Demonstrates motivation for independent work, creative approach to completing tasks

## 10.2 Criteria for assessing teaching methods and technologies

### Multi-point knowledge assessment system

Letter Grading	Digital equivalent of points	Percentage content	Traditional system assessment
A	4.0	95-100	Excellent
A -	3.67	90-94	
B +	3.33	85-89	
B	3.0	80-84	Good
B -	2.67	75-79	
C +	2.33	70-74	
C	2.0	65-69	Satisfactorily
C -	1.67	60-64	
D+	1.33	55-59	
D-	1.0	50-54	Unsatisfactory
FX	0, 5	25-49	
F	0	0-24	

### Checklist for assessing a lesson

Form of control	Grade	Evaluation criteria
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Work in small groups ( implementation of practical work )	Excellent corresponds to points 95-100 90-94	- completed the practical work on time and without any errors and submitted a report on it; - took an active part in the discussion research results; - made a reasonable conclusion, while showing original thinking
	Good corresponds to points 85-89 80-84 75-79 70-74	- completed the practical work on time and submitted a report on it, allowing non-fundamental errors; - took an active part in the discussion of the research results
	Satisfactorily corresponds to points 65-69 60-64 50-54	- completed the practical work on time and submitted a report on it, allowing fundamental errors; - was not active during the discussion, needed help teacher
	Unsatisfactory corresponds to points 25-49	- failed to submit the report on time practical work, made gross mistakes, did not complete all the practical work, provided by the program;
	Unsatisfactory corresponds to points 0-24	- did not take part in the discussion of the results of the work
Case - study	Excellent corresponds to points 95-100 90-94	- solved cases within a certain time; - gave full answers to all questions
	Good corresponds to points 85-89 80-84 75-79 70-74	- solved cases within a certain time; - gave complete answers to all questions; - when solving cases made minor mistakes
	Satisfactorily corresponds to points 65-69 60-64 50-54	- solved cases within a certain time; - gave incomplete answers to questions; - made fundamental mistakes when solving cases
	Unsatisfactory corresponds to points 25-49	- solved cases incorrectly or did not solve them at all ; - made gross mistakes when solving cases
	Unsatisfactory corresponds to points 0-24	
Work in small groups (and interpretation of clinical laboratory test results )	Excellent corresponds to points 95-100 90-94	- correctly, without any errors, interpreted the results of clinical laboratory tests; - made a reasoned conclusion
	Good corresponds to points 85-89 80-84	- correctly interpreted the results of clinical laboratory tests, making minor errors; - made a reasoned conclusion

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	75-79 70-74	
	Satisfactorily corresponds to points 65-69 60-64 50-54	- correctly interpreted the results of clinical laboratory studies, having made fundamental mistakes; - made an unfounded conclusion
	Unsatisfactory corresponds to points 25-49	- incorrectly interpreted the results of clinical laboratory tests, making gross errors; - did not draw a conclusion
	Unsatisfactory corresponds to points 0-24	
Discussion of the topic	Excellent corresponds to points 95-100 90-94	- did not make any mistakes during the discussion; - was oriented in the theories, concepts and directions of the discipline and gave them a critical assessment; - used scientific achievements of other disciplines
	Good corresponds to points 85-89 80-84 75-79 70-74	- during the discussion he did not make any gross mistakes, but he did make inaccuracies and minor errors, which he corrected himself; - managed to systematize the program material with the help of the teacher
	Satisfactorily corresponds to points 65-69 60-64 50-54	- made fundamental mistakes during the discussion; - limited himself to only the educational literature specified by the teacher; - experienced difficulty in systematizing the material
	Unsatisfactory corresponds to points 25-49	- made gross mistakes during the discussion; - did not study the basic literature on the topic of the lesson; - failed to use the scientific terminology of the discipline
	Unsatisfactory corresponds to points 0-24	
Testing	Excellent corresponds to points 95-100 90-94	- correctly completed 90-100% of test tasks
	Good corresponds to points 85-89 80-84 75-79 70-74	- did it correctly 70-89% of test tasks
	Satisfactorily corresponds to points 65-69 60-64 50-54	- did it correctly 50-69% of test tasks

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	Unsatisfactory corresponds to points 25-49	- performed less correctly 50% of test tasks
	Unsatisfactory corresponds to points 0-24	

#### Checklist for assessing answers to descriptions of macropreparations


No.	Evaluation Criteria/Evaluation	Excellent	Good	Satisfactory	Unsatisfactory
1	Name of the organ	4	3	2	0
2	Organ size	10	7	5	0
3	Surface: condition of the capsule or serous membrane, dullness, shine, overlap	1	1	1	0
4	Characteristics of the pathological focus: Localization, size, shape (if ulcer - condition of the bottom), color, consistency	5	4	2	0
5	Pathological diagnosis/conclusion				
6	Total	20	15	10	0

#### Checklist for assessment answers on the description of m and cropreparations

No	Evaluation Criteria/Evaluation	Excellent	Good	Satisfactory	Unsatisfactory
1	Name of an organ or tissue	4	3	2	0
2	Characteristics of pathological changes: localization, description	10	7	5	0
3	Coloring	1	1	1	0
4	Pathological diagnosis/conclusion	5	4	2	0
5	Total	20	15	10	0

#### Checklist for assessment answers on writing prescriptions


<b>Prescription writing</b>	<b>Excellent</b> Corresponds to ratings: A (4.0; 95-100%); A- (3.67; 90-94%)	Writes out a prescription for medicines in the most appropriate dosage form depending on age, gender, and functional characteristics. Writes out a prescription for the selected medicine without errors. Calculates doses using various methods and determines the frequency and duration of use of the medicine.
	<b>Good</b> Corresponds to ratings: B+ (3.33; 85-89%) B (3.0; 80-84%) B- (2.67; 75-79%)	Writes out a prescription for the selected medication without errors. Calculates the dose of the medicine. Limited to general indications "Internal", "External".

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	C+ (2.33; 70-74%)	
	<b>Satisfactorily</b> Corresponds to ratings: C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.33; 55-59%) D- (1.0; 50-54%)	Writes out a prescription using reference literature/sources. Allows corrections to the prescription.
	<b>Unsatisfactory</b> FX ( 0.5 ; 2.5-4.9 % ) F ( 0; 0- 2 4%)	Writes out a prescription with errors.

#### Checklist for assessing the analysis of scientific articles

Score in points by %	Unsatisfactory (0-49%)	Satisfactory (65-54% )	Good (70-89%)	Excellent (90-100%)
Evaluation criteria				
<b>Structure of the article</b>	1. Does not name the structural components of a scientific article	1. Does not follow the order of the structure of the scientific article when listing, skips components	1. Lists the structural components of a scientific article, but violates the order of the structure	1. Observes the order of the structure of a scientific article when listing: - Name - Authors - Publishing house - Summary - General part (introduction, purpose, materials and methods, results and discussion) - Conclusions - Bibliography
<b>Analysis of the content of a scientific article</b>	1. Does not understand the relevance of the problem, is not capable of discussing the content of the article	1. Understands the relevance of the problem 2. Lists the purpose of the work, the materials and methods used in the work 3. Understands the content of a scientific article 4. Lists the conclusions and bibliography in this article	1. Assumes the relevance of the problem 2. Explains the purpose of the work, the materials used in the work and methods presents the content of a scientific article 3. Justifies the conclusions 4. Justifies the selected list of references in this article	1. Independently substantiates and argues the relevance of the problem 2. Explains the purpose of the work, the materials and methods used in the work 3. Freely expresses the semantic content of a scientific article 4. Argues and justifies conclusions 5. Has the skill of using literature and justifies the selected list of literature in this article

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<b>Answer to additional questions (on the topic of the article for the discipline)</b>	1. Does not answer additional questions on the topic	1. Does not understand the problem at hand when answering additional questions	1. Apply the knowledge gained during the practical lesson on the topic when answering additional questions	1. Applies the knowledge gained during the practical lesson on the topic when answering additional questions, provides a deep and comprehensive argumentation
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#### Checklist for assessment of written tasks at midterm assessment (Pharmacology)

Form control	Grade	Evaluation criteria
Written	<b>" Excellent "</b> 90-100%	If the student has not made any mistakes in answering, he can use the scientific terminology of the subject. It focuses on the pharmacological classification and nomenclature of medicines. Provides pharmacological characteristics of medicines. Compares drugs in pharmacological groups and offspring according to pharmacokinetic and pharmacodynamic parameters. Prescribes medications.
	<b>" Good "</b> 70-89%	If the student has not made any mistakes in answering, he can use the scientific terminology of the subject. It focuses on the pharmacological classification and nomenclature of medicines. It does not provide complete pharmacological characteristics of medicines. It does not compare drugs in pharmacological groups, progeny by pharmacokinetic, pharmacodynamic parameters. Prescribes medications.
	<b>" Satisfaction - remarkably »</b> 50-69%	If a student does not make many mistakes when answering, he does not know how to use the scientific terminology of the subject. It does not focus on the pharmacological classification and nomenclature of medicines. It does not provide complete pharmacological characteristics of medicines. It does not compare drugs in pharmacological groups or generations according to pharmacokinetic and pharmacodynamic parameters. Writes prescriptions for medicines with errors.
	<b>" Unsatisfactory "</b> 0-49%	If a student makes fundamental mistakes in answering, does not know how to use the scientific terminology of the subject, responds with gross stylistic and logical errors. It does not focus on the pharmacological classification and nomenclature of medicines. It does not provide pharmacological characteristics of medicines. It does not compare drugs in pharmacological groups or generations according to pharmacokinetic and pharmacodynamic parameters. Does not prescribe medications .


#### 11. Educational resources

Electronic resources	<ul style="list-style-type: none"> <li>Electronic library of YUKMA - <a href="https://e-lib.skma.edu.kz/genres">https://e-lib.skma.edu.kz/genres</a></li> <li>Republican Interuniversity Electronic Library (RIEL) – <a href="http://rmebrk.kz/">http://rmebrk.kz/</a></li> <li>Digital library " Aknurpress " - <a href="https://www.ahnurpress.kz/">https://www.ahnurpress.kz/</a></li> <li>Electronic library "Epigraph" - <a href="http://www.elib.kz/">http://www.elib.kz/</a></li> <li>Epigraph - portal of multimedia textbooks <a href="https://mbook.kz/ru/index/">https://mbook.kz/ru/index/</a></li> <li><b>EBS IPR SMART</b> <a href="https://www.iprbookshop.ru/auth">https://www.iprbookshop.ru/auth</a></li> <li>information and legal system " Zan" - <a href="https://zan.kz/ru">https://zan.kz/ru</a></li> <li>Cochrane Library - <a href="https://www.cochranelibrary.com/">https://www.cochranelibrary.com/</a></li> </ul>
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Electronic textbooks	<p><b>Pharmacology</b></p> <ol style="list-style-type: none"> <li>1. Kharkevitch , DA Pharmacology : textbook for medical students / DA Kharkevitch . - Electronic text given (83.9MB). - M.: GEOTAR - Media, 2017. - email. wholesale Disk</li> <li>2. Pharmacology: textbook / ed. bass. G. M. Pichkhadze = Pharmacology: textbook / edited by G. M. Pichkhadze. - Electronic text data. (43.0 Mb). - M.: "Litterra", 2016.</li> <li>3. Lecture course on pharmacology for students of the dental faculty. Stikeeva R.K., Koranova T.S., 2014 <a href="https://aknurpress.kz/reader/web/1384">https://aknurpress.kz/reader/web/1384</a></li> <li>4. Aisina, R.A., Oryntaeva, M.D. Pharmacology with toxicology for the formulation section: Guidelines. - Kostanay: KSU named after. A. Baitursynova, 2012. <a href="http://rmebrk.kz/book/1024531">http://rmebrk.kz/book/1024531</a></li> <li>5. Kalieva Sh.S. Clinics of pharmacology and pharmacotherapy. Volume 2 – Okulyk / Sh.S.Kalieva, N.A. Simokhin, B.E. Tonkabaeva. – Almaty: “Evero” basspasy, 2020. <a href="https://www.elib.kz/ru/search/read_book/2799/">https://www.elib.kz/ru/search/read_book/2799/</a></li> <li>6. Ormanov N.Zh., Syrmanova N.R., Ormanova L.N. Zhalpy recipe. Zhalpy pharmacology-Almaty: Evero, 2020. <a href="https://elib.kz/ru/search/read_book/743/">https://elib.kz/ru/search/read_book/743/</a></li> <li>7. Stikeeva R.K. Pharmacology – 1 - textbook. - R.K.Stikeeva.- Almaty: Evero, 2020. <a href="https://elib.kz/ru/search/read_book/2742/">https://elib.kz/ru/search/read_book/2742/</a></li> <li>8. Stikeeva R.K. Pharmacology-I.- oku kuraly.- Stikeeva R.K. – Almaty Evero.- 2020. <a href="https://elib.kz/ru/search/read_book/2741/">https://elib.kz/ru/search/read_book/2741/</a></li> <li>9. Ormanov N.Zh., Ormanova L.N. Pharmacology-1. Almaty. "Evero" ZhS. 2020. <a href="https://elib.kz/ru/search/read_book/735/">https://elib.kz/ru/search/read_book/735/</a> Ormanov N.Zh., Ormanova L.N. Pharmacology-2. "Evero" ZhS. Almaty, 2020. <a href="https://elib.kz/ru/search/read_book/736/">https://elib.kz/ru/search/read_book/736/</a></li> </ol>
Laboratory Physical Resources	
Literature	<p><b>Pharmacology</b> <b>Main:</b></p> <ol style="list-style-type: none"> <li>1. Pharmacology: oku kuraly = Pharmacology: textbook/G. M. Pichkhadze [t.b.].- M.: "Litterra", 2016.-504b.</li> <li>2. Stikeeva, R. K. Pharmacology-1: okukuraly / R. K. Stikeeva. - Almaty: Evero, 2016. - 148 bet.s.</li> <li>3. Kharkevich, D. A. Fundamentals of Pharmacology: textbook. - M.: GEOTAR - Media, 2015.- 720 p.</li> <li>4. Alyautdin, R. N. Pharmacology: textbook. - M.: GEOTAR - Media, 2014. - 704 p. :</li> <li>5. Kharkevich, D. A. Pharmacology: okulyk. - M.: GEOTAR - Media, 2014. - 784 bet.</li> <li>6. Rakhimov, K. D. Pharmacology: okukuraly. - Almaty: Zhaniya-Poligraf Housing Society, 2014. - 554 bet.s.</li> <li>7. Ormanov N. Zh. Pharmacology. 1-kitap:okulyk /N.Zh. Ormanov, L.N. Ormanova. - Almaty: Evero, 2013. - 656 bet.s.</li> <li>8. Ormanov, N. Zh. Pharmacology. 2-kitap: okulyk / N. Zh. Ormanov, L. N. Ormanova. - Almaty: Evero, 2013. - 512 bet.s.</li> <li>9. Pharmacology: textbook / ed. R. N. Alyautdina. - M.: GEOTAR - Media,</li> </ol>

<p style="text-align: center;">             ОҢТҮСТІК ҚАЗАҚСТАН  <b>MEDISINA</b>  <b>AKADEMIASY</b>              «Оңтүстік Қазақстан медицина академиясы» АҚ           </p>		<p style="text-align: center;">   <b>SKMA</b>              -1979-  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>
<p style="text-align: center;">             Department of Biology and Biochemistry              Department of Pathology and Forensic Medicine              Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology              Department of Propaedeutics and Internal Medicine              Department "Pediatrics-1"           </p>		<p style="text-align: right;">             041- /11              Page 22 of 36           </p>
<p style="text-align: center;">             Working programme of the discipline "Nervous system and organs of sense and vision in pathology " ( Syllabus )              Educational program 6B10115 "Medicine"           </p>		

	<p>2013. - 832 + el.</p> <p><b>Additional:</b></p> <ol style="list-style-type: none"> <li>1. Pharmacology: nyskaulyk = Pharmacology: manual / G. M. Pichkhadze [t.b.]. - M.: "Litterra", 2017. - 640 b.</li> <li>2. Mashkovsky M.D. Medicines. 16th edition. revised, supplemented and corrected. M. Novaya Volna. 2017. – 1216 p.</li> <li>3. Pharmacology: a guide to laboratory classes: a textbook / edited by D. A. Kharkevich. - 6th edition, corrected and supplemented; Rec. educational and methodological association for medical and pharmaceutical education of universities in Russia. - M.: GEOTAR - Media, 2014. - 512 p.</li> <li>4. Pharmacology of non-medicinal formulations: okulyk / M. Z. Shaidarov [f./b.]. - Astana: Aknur, 2014. - 398 bet. With.</li> <li>5. Fundamentals of Pharmacology with a Recipe: Textbook / M. Z. Shaidarov [et al.]. - Astana: Aknur, 2014. - 406 p.</li> <li>6. Ormanov, N. Zh. Zhalpy recipe. Zhalpy pharmacology: okukuraly.- Shymkent: "RISO", 2013. - 76 bet.s.</li> <li>7. Ormanov, N. Zh. Zhalpy recipe. Zhalpy pharmacology: okukqyraly / N. Zh. Ormanov, N. R. Syrmanova, L. N. Ormanova; KR densaulyk saktau ministerligi; OKMMA. - Almaty: Evero, 2012. - 102 bet.s.</li> </ol>
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## 12. Discipline Policy

### Requirements for students ( attendance, behavior, grading policy, penalties, incentives, etc.)

- observe medical ethics and deontology;
- no smoking in the academy;
- maintain cleanliness in the department;
- do not damage furniture in classrooms;
- treat textbooks with care;
- maintain the appearance of a medical university student;
- observe safety regulations;
- during quarantine, wear medical masks and comply with sanitary and epidemiological regulations;
- do not miss classes without a good reason;
- classes missed for a valid reason must be made up in a timely manner, but only with permission from the dean's office and at a time determined by the teacher;
- don't be late for classes;
- have the necessary documentation in class: syllabus , methodological instructions for classes, lectures, notebook and textbook;
- prepare for classes conscientiously;
- be active during classes;
- do not engage in other activities during classes: do not talk, do not smoke, do not chew gum, do not eat food, do not use the phone, do not listen to music, do not read newspapers and magazines, do not prepare for classes in another subject;
- maintain silence and order during breaks;
- implement SIW in a timely manner.

### Penalties for failure to complete sections of the work:

- If you miss lectures without a valid reason, your grade for the midterm assessment will be reduced – 1 point for each missed lecture;
- If you miss a SIW without a valid reason, your midterm assessment score will be reduced by 2 points for each missed lesson;
- In case of a single violation of the discipline policy, the student is given a warning;
- In case of systematic violation of the discipline policy, information about the student's behavior is transferred to the

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<p>Department of Biology and Biochemistry Department of Pathology and Forensic Medicine Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology Department of Propaedeutics and Internal Medicine Department "Pediatrics-1"</p>		
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faculty dean's office.

### Criteria for non-admission to final control:

A student who has received an unsatisfactory grade for one of the types of tests (M 1, /m 2, average grade of the current test) is not admitted to the final test for the discipline.

### 13. Academic policy based on the moral and ethical values of the academy

Regulations and Rules of SKMA. Academic policy.

P.4. Code of honor of the student

P.10. Organization of the educational process

P.12. Grading Policy

The final grade is calculated automatically based on the average grade of the current control, the average grade of the midterm control and the grade of the final control.

$$\text{Final score (100\%)} = \text{AR (60\%)} + \text{FCA (40\%)}$$

$$\text{AR (60\%)} = \text{M avg (20\%)} + \text{CC avg (40\%)}$$

$$\text{M av} = (\text{M 1} + \text{M 2}) : 2$$

$$\text{Final score (100\%)} = \text{M avg} \times 0.2 + \text{CC avg} \times 0.4 + \text{FCA} \times 0.4$$

AR – Admission Rating




FCA – final control assessment

M avg – average grade of the midterm control taking into account penalty points

CC avg – average assessment of current control taking into account SRO

M 1 – Midterm 1

M 2 –midterm 2

Date of agreement with the library and information center	Protocol No. 3 14.06.24	Head of the LIC Darbicheva R.I	Signature 
Date of approval for AC EP	Protocol No. 11 14.06.2024	Full name of the Chairman of the AC EP Kachumov Z.D	Signature 
Date of approval at the department	Protocol No. 11 28.06.2024	Full name of the head Bagraba A.M	Signature 
Date of revision at the department	Protocol No. ____	Full name of the head	Signature
Date of revision on AC EP	Protocol No. ____	Full name of the Chairman of the AC EP	Signature