

ONTÜSTIK QAZAQSTAN MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ  SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия»	
Кафедра химии, биохимии и молекулярной биологии Кафедра патологии и судебной медицины Кафедра фармакологии, фармакотерапии и клинической фармакологии Кафедра пропедевтики внутренних болезней Кафедра «Педиатрия-1» Кафедра фтизиопульмонологии и радиологии	Стр.1 из 28
Рабочая учебная программа дисциплины «Опорно-двигательный аппарат и кожа в патологии» (Силлабус)	

Silabus

Department of Chemistry, Biochemistry and Molecular Biology
Department of Pathology and Forensic Medicine
Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology
Department of Propaedeutics of Internal Diseases
Department of Pediatrics-1
Department of Phthisiopulmonology and Radiology

Working curriculum of the discipline
"Musculoskeletal system and skin in pathology"
Educational program 6B10115 "Medicine"

1.	General information about the discipline		
1.1	Discipline code: ODAKP 3304	1.6	Academic year: 2024-2025
1.2	Discipline name: Musculoskeletal system and skin in pathology	1.7	Course: 3
1.3	Prerequisites: General pathology, musculoskeletal system and skin in norm	1.8	Semester: 6
1.4	Postrequisites: Diseases of the musculoskeletal system and skin	1.9	Number of credits (ECTS): 5/150
	Cycle: BD	1.10	Component: BK
2.	Description of the discipline		
Integrated discipline: formation of fundamental knowledge on the basics of semiotics, syndromology, physical examination methods and the main parameters of laboratory research, issues of etiology, pathogenesis, morphogenesis, biological characteristics of microorganisms, radiation diagnostics of frequently occurring pathological processes of the musculoskeletal system and skin, acquisition of skills in choosing research methods for diagnostics and drugs for the treatment of the most common diseases in adults and children.			
3.	Summative assessment form		
3.1	● Testing 3.5 Coursework	● Testing 3.5 Coursework	
3.2	Written 3.6 Essay	Written 3.6 Essay	
3.3	Oral 3.7 Project	Oral 3.7 Project	
3.4	● OSPE/OSKE or practical skills test 3.8 Other (specify)	● OSPE/OSKE or practical skills test 3.8 Other (specify)	

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4.	Discipline objectives		
1. Formation of a holistic understanding of the pathology of the musculoskeletal system and skin, based on symptoms and syndromes, as well as on the methods of their study. 2. Ensuring the achievement of the final learning outcomes based on the joint study of the pathology of the musculoskeletal system and skin on the propaedeutics of internal and pediatric diseases with fundamental disciplines. 3. Formation of clinical thinking skills based on knowledge of the pathophysiological mechanisms of the course, pathological changes, complications and outcomes of diseases, physical and clinical laboratory methods of examination and the choice of drugs in adults and children with the main clinical syndromes in the pathology of the musculoskeletal system and skin. 4. Formation of research skills through the analysis of scientific articles, analysis of experimental studies and project activities.			
5.	Final learning outcomes (FO disciplines)		
PO1	Demonstrates knowledge and understanding of the basics of semiotics and syndromology, etiology, pathogenesis and morphogenesis of pathology of the musculoskeletal system and skin.		
PO2	Proficient in methods of conducting interviews, physical examination of adults and children, uses clinical thinking in collecting information when drawing up an examination plan; outlines the scope of primary and additional studies to clarify the syndrome of damage in pathology of the musculoskeletal system and skin.		
PO3	Uses clinical thinking in collecting information when interpreting the results of morphological, laboratory and instrumental methods of examining patients with pathology of the musculoskeletal system and skin, formulates a syndromic diagnosis, fills out a medical history.		
PO4	Communicates information, ideas, problems and solutions to patients and their family members, knows the norms of ethics and deontology in communicating with patients, their relatives and colleagues. 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 musculoskeletal system and skin, evaluates the results of experimental studies.		
PO5	Selects drugs in accordance with the diagnosis, writes prescriptions, determines the dosage regimen, recognizes adverse effects of drugs, predicts the development of side effects and interactions of drugs used in pathology of the musculoskeletal system and skin.		
PO6	Analyzes professional literature when working with scientific articles, carries out a project, demonstrates a desire for continuous improvement of his/her activities.		
PO7	Demonstrates knowledge and understanding of the basics of semiotics and syndromology, etiology, pathogenesis and morphogenesis of pathology of the musculoskeletal system and skin.		
5.1	<table border="1" style="width: 100%;"> <tr> <td style="background-color: #d9e1f2;">PO disciplines</td><td>Learning outcomes of the OP, which are associated with the PO disciplines</td></tr> </table>	PO disciplines	Learning outcomes of the OP, which are associated with the PO disciplines
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	PO 1 PO 2 PO 3	PO1 Apply in practice knowledge in the field of biomedical, clinical, epidemiological and socio-behavioral sciences, including generally accepted, developing and constantly updated knowledge for diagnosis, treatment, dynamic observation of the most common diseases.				
	PO 4	PO2 Maintain interpersonal and communication skills leading to effective exchange of information and cooperation with patients, their families and health care workers.				
	PO 5 PO 6 PO 7	PO6 Selects drugs in accordance with the diagnosis, writes prescriptions, determines the dosage regimen, recognizes adverse effects of drugs, predicts the development of side effects and interactions of drugs used in pathology of the musculoskeletal system and skin.				
6.	Detailed information about the discipline					
6.1	● Location of the Department of Biology and Biochemistry: Shymkent, Al-Farabi square, 1, main academic building of SKMA, 4th floor. ● Location of the Department of Pathology and Forensic Medicine: Shymkent, Al-Farabi square, 3, academic building No. 2 of SKMA, 4th floor, classrooms No. 404 a, b, No. 406, No. 408, No. 409, No. 411 a, b; ● e-mail: Patan.gisto@mail.ru ● Location of the Department of Pharmacology, Pharmacotherapy and Pharmacology Clinic: Shymkent, Al-Farabi Ave., 1, main educational building of SKMA, 4th floor, auditorium No. 419, No. 421, No. 425, No. 429, No. 431, No. 434, No. 417, lecture hall No. 4; ● tel. 40-82-06 (ATS), 227 (ext.). ● Location of the Department of Propaedeutics of Internal Diseases: Shymkent, ParkHealth Clinic, Kurmanbekov St., 2; ● tel.: 8 701 738 6114, ● e-mail: propedevtica_vb@mail.ru ● Location of the Department of Pediatrics-1: Shymkent, Argynbekov St., 125, Regional Children's Hospital; ● e-mail: ped.rez@ mail.ru ● Location of the Department of Phthisiopulmonology and Radiology: Shymkent, Ryskulova St., 82/16, Multidisciplinary Clinic "Tynyk"					
6.2	Number of hours	Lectures	Practical.	Lab.	SROP	SRO
		10	40		15	85
6.3	Study plan for the discipline					

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Кафедра фармакологии, фармакотерапии и клинической фармакологии
Кафедра пропедевтики внутренних болезней
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Days		1	2	3	4	5	6	7	8	9	10	11	12	Часы
Form of the lesson														
Radiation diagnostics (1 cr.) Propaedeutics of internal diseases	Lek	1					1							2
	Practice	3					3						2	8
	SROP	1					1 PK №1						1 PK №2	3
	SRO	6					6						2	14+3(ПА)=17
(1 cr.) Pharmacology	Lek		1						1					2
	Practice		3						3			2		8
	SROP		1						1			1		3
	SRO		6						6			2		14+3(ПА)=17
(1 cr.) Pathophysiology (0.5 cr.)	Lek					1					1			2
	Practice					3					3		2	8
	SROP					1					1		1	3
	SRO					6					6		2	14+3(ПА)=17
Pathological anatomy (0.5 cr.)	Lek			1										1
	Practice			2						2				4
	SROP									1				1
	SRO									8				8+1(ПА)=9
Propaedeutics of childhood diseases (0.5 cr.)	Lek				1									1
	Practice				2							2		4
	SROP											1		1
	SRO											7		7+2(ПА)=9
Biochemistry Radiation diagnostics (1 cr.)	Lek								1					1
	Practice				1				3					4
	SROP				2				1					3
	SRO				3				3					6+1(ПА)=7
	Lek									1				1
	Practice	1		1						1	1			4
	SROP			1										1
	SRO			7										7+2(ПА)=9

7. Information about teachers

№	Full name	Degrees and position	Email address	Scientific interests, etc.	Note
Department of Biology and Biochemistry					
1	Kenzhebekov P.K.	PhD, Professor	kenzhebekov.p@gmail.com	"Study of the chemical composition of volatile aroma-forming compounds in some meat products"	Author of 42 scientific publications
2	Ordabekova A.B	Master of Biology,	asmira75@mail.ru	"Bauyrdyn uly zakymdanuyndagy selenin antioxidanttyk"	1 teaching aid

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Кафедра патологии и судебной медицины
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				kasiyeti"	
3	Asilbekova G.K.	Senior Lecturer	shahats@mail.ru	"Microelementoses"	Author of 22 scientific publications
4	Kanzhigitova M.Zh.	Master of Biology,	Molya_1503	Study of legume and legume plants according to the law of homologous series	1 teaching aid
5	Zhienbaeva A.A.	Senior Lecturer	alia.zhienbaeva@mail.ru	-	Author of 14 scientific publications
6	Beisebaeva Lyazzat Mukhtarovna	Master of Biology,	lyzzatb70@list.ru	"Organization of clinical diagnostic laboratory service in modern conditions in the Republic of Kazakhstan"	1 teaching aid
Department of Pathology and Forensic Medicine					
1	Sadykova Aliya Shamilevna	Head of the Department of Pathology and Forensic Medicine, MD, Acting Professor	aliya.sadykova.66@mail.ru	Topic of the scientific direction "Pathology of the immune system, pathological anatomy of tumors"	Author of 84 scientific publications, 5 textbooks, 1 patent for invention, 1 monograph
2	Bisimbaeva Saule Babatovna	PhD, Acting Associate Professor	Bisimbaeva@inbox.ru	Topic of the scientific direction "Prognostic assessment of the health of workers in cement production"	Author of 40 scientific publications, 2 provisional patents, 1 patent, 1 monograph and 2 acts of implementation of the results of scientific research work
3	Dosybaev Bakhytzhon Krykbaevich	PhD, Acting Associate Professor	Krik85@mail.ru	Topic of the scientific direction "The influence of lead on the oxidative metabolism of lipids and proteins in the blood and its correction with biofenikol"	Author of 14 scientific publications

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4	Kulbalieva Zhannat Zhakslikovna	PhD, Acting Associate Professor	zhann_7 @mail.ru	Topic of the scientific direction "Diagnostics and prevention of colorectal cancer"	Author of 44 scientific publications, 1 teaching aid, 2 acts of implementation of the results of scientific research work and 3 acts of implementation of the results of teaching aid
5	Kerimov Rasim Azatovich	Master, Senior Lecturer	Kir-2004 @list.ru	Topic of the scientific direction "The development of arterial diseases and atherosclerosis morphogenesis in Shymkent"	Author of 20 scientific publications
6	Abildina Kalamkas Berzhanovna	Master, Assistant	Mskas1972 @mail.ru	Topic of the scientific direction "Pathology of the immune system, pathological anatomy of tumors"	Author of 19 scientific publications 1 teaching aid
7	Ignatieva Anastasia Sergeevna	Senior Lecturer	Zhelonkina_88@ mail.ru	-	-
8	Berdalieva Gulmira Bakhytkyzy	Senior Lecturer	Mira-3505 @mail.ru	-	Author of 6 scientific publications
9	Kurymbaeva Ainur Rashidkyzy	Assistant	Smp_zoj @mail.ru	-	-
10	Seidakbar Aisana Usenovna	Lecturer	aseydakbar @mail.ru	-	Author of 2 scientific publications
11	Duysembieva Zhazira Mereykyzy	Lecturer	zhazira0508 @mail.ru	Theme of the scientific direction "Ontustik Kazakhstan aymagyndagy turgyndardyn salauatty omir saltyn kalyptastyrudyn gylymi	Author of 3 scientific publications

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Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology					
1	Ibragimova Aigul Gaffarovna	PhD, Acting Associate Professor	aygul_ibr @mail.ru	"Problems of rational use of drugs: effective and safe pharmacotherapy, pharmacoepidemiologi cal, pharmacoeconomic, pharmacogenetic aspects. Personalized therapy. Development of herbal medicines and effective herbal medicine for various diseases"	Author of more than 20 scientific papers, teaching aids, methodological recommendations
2	Abuova Gulnara Turganbaevna	PhD, Acting Associate Professor	abuova@mail.ru	"Pharmacoeconomic approaches to optimizing the treatment of acute respiratory infections in outpatient settings"	Author of more than 20 scientific papers, teaching aids, methodological recommendations
3	Korganbaeva Zaure Sarybaevna	PhD, Acting Associate Professor	korganbaeva055 @mail.ru	"Korgasynmen uyttanau kezinde kan zhane bauyrdan zakymdanuyna phytopreparation tardyn protektorlyk aserin negizdeu"	Author of more than 20 scientific papers, teaching aids, methodological recommendations
4	Syrmanova Nurgul Rakhmanovna	Master of Medical Sciences, Senior Lecturer	n_rakchman @mail.ru	"Taspa tuysy asimdikterinen bolinip alyngan extracttardyn specificalyk belsendilykterin zertteu"	Author of more than 20 scientific papers, teaching aids, methodological recommendations
5	Muyutova Makhsuda Nasyrovna	Master of Medical Sciences, Senior Lecturer	mahsu_med @mail.ru	Clinical pharmacology in general medicine and neurology	Author of 3 scientific articles

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6	Sultanbekova Aidana Nasirllaqyzy	Lecturer	arnur.ernur89@ mail.ru	Clinical pharmacology in general medicine and pediatrics	Author of 3 scientific articles
Department of Propaedeutics of Internal Diseases					
1	Bekmurzaeva Elmira Kuanyshevna	Head of Department, MD, Professor	Elmira-bek @mail.ru	Scientific work: "Clinical and hygienic features of the formation of diseases of the digestive organs in workers of a modern oil refining production (on the example of JSC "SHNOS")"	The author of over 260 scientific and methodological publications, 2 textbooks, 8 teaching aids. Certificate of therapist, gastroenterologist and rheumatologist of the highest category. 2005 - Doctor of Medical Sciences, approved by the Higher Attestation Commission of the Republic of Kazakhstan (diploma FK No. 0000379), (14.00.50 - "Occupational Medicine"), professor in the specialty "Medicine" (diploma PR No. 0000446), Higher Attestation Commission of the Republic of Kazakhstan. Under the supervision of Bekmurzaeva E.K. 3 candidates of medical sciences were prepared, who received approval from the Committee for Control and Certification in the Sphere of Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan. She was awarded medals, diplomas and certificates for high scientific

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					achievements: Robert Koch 2012, Peterkoff 2014, Albert Schweitzer 2015, "Excellent Healthcare Worker of the Republic of Kazakhstan", Republican grant of the Ministry of Education and Science of the Republic of Kazakhstan "Best University Teacher - 2014"
2	Sadykova Gulzhan Saparovna	Candidate of Medical Sciences, Acting Associate Professor	gulzhan2171@mail.ru	Scientific work: "Uly hepatitis kozyndegi pannuvladinnin gepatoprotektorlyk aseri"	Author of more than 35 scientific and scientific-methodical publications, 8 teaching aids, Certificate of a therapist of the highest category. Certificate of a specialist in general practice
3	BaydullaevBak hram Muzaffarovich	Assistant	bbm2055@mail.ru	-	Author of more than 65 scientific and scientific-methodical publications, 6 teaching aids. Certificate of a therapist of the highest category
4	AkhaevaLaura Zhaksylykovna	Assistant	Laura1990a00@mail.ru	-	Certificate of a specialist in general practice. Author of 25 scientific publications
5	Toktarova Gulnaz Abdimalikovna	Assistant	Toktar_8585@mail.ru	-	Certificate of a specialist in general practice, functional diagnostics, cardiologist. Author of 8 scientific publications and co-author of 1 teaching aid
6	Batkhieva Madina Bekenovna	Assistant	Madin_madina@mail.ru	-	Co-author of 1 teaching aid. International APTIS certificate. Certificate of a

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					therapist		
7	Tazhibaeva Azhar Bakytbekkyzy	Assistant	avril.tab@mail.ru	-	Certificate of a general practitioner Author of 29 scientific publications		
Department of Pediatrics-1							
1	Kemelbekov K.S.	PhD	Kanat-270184@mail.ru	Pediatrics,	Author of more than 80 scientific publications and 3 textbooks		
2	Baimakhanov a B.B.	PhD, Associate Professor	Bakhtigul059@mail.ru	Balalar surgery	Author of more than 40 scientific publications and 1 manual		
3	Absadyk A.E.	Assistant	aidana.absadyk@mail.ru	Pediatrics	Author of scientific publications -		
4	Baltabaeva B.S.	Assistant	Boti.asik@mail.ru	Pediatrics	Author of scientific publications -		
Department of Phthisiopulmonology and Radiology							
1	Tulegenova Aigul Asanbaevna	assistant of the department	taa8009@mail.ru	Ultrasound of organs in children	Gives lectures and conducts classes in Kazakh and Russian.articles		
2	Nazarbaeva Gulzhanat Nalikhhanovna	assistant of the department	visual_diagnostic_s@mail.ru	Ultrasound of the urinary system	radiation diagnostics doctor. More than 8 scientific articles		
3	Umiraliyev Aset Amiralievich	assistant of the department	Aset.umiraliyev.72@mail.ru	Ultrasound of the abdominal cavity	radiation diagnostics doctor. More than 8 scientific articles		
4	Amangeldi Zhibek Nurtaskyzy	assistant of the department	A_zh_n@mail.ru	Neuroradiology	radiation diagnostics doctor. Author of 1 textbook		
8.	Thematic plan						
Day	Topic Title	Summary		PO module	Nu mb er	Forms/met hods/techn ologies of	Forms/m ethods of assessme

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				of hou rs	teaching	nt
1	Radiation diagnostics. Lecture 1 Radiation diagnostics of diseases of the musculoskeletal system. Methods of radiation examination.	Basic visual methods of examination of the musculoskeletal system. Types of radiation methods of examination of the musculoskeletal system. Features of the musculoskeletal system.	PO1 PO2 PO3	1	Overview lecture	Blitz survey Feedback
	Radiation diagnostics. Practical lesson 1 Radiation anatomy of the musculoskeletal system in pathology.	Visual anatomy of the musculoskeletal system. Types of radiation methods of examination of the musculoskeletal system. Features of the musculoskeletal system.	PO1 PO2 PO3	3	oral survey, description of images, solution of test tasks	Checklist
	Radiation diagnostics. SROP/SRO 1 Radiation diagnostics of the main pathologies of the musculoskeletal system	Methods of examination of the musculoskeletal system. Basic and additional methods of examination. Radiography of the musculoskeletal system. Electroradiography of the musculoskeletal system. Linear tomography of the musculoskeletal system. Computer tomography. Magnetic resonance imaging. Radionuclide diagnostics.	PO1 PO2 PO3	1/6	Testing on the topic. Oral defense of the notes (based on the teacher's questions).).	Checklist
	Biochemistry. Practice No. 1. Study of the biochemical basis of muscle contraction.	Study of the biochemical basis of muscle contraction. Experiments with modeling the work of actin and myosin. Analysis of the role of calcium in muscle contraction.	PO1 PO3	1	seminar, testing, situational tasks	Checklist
2	Propaedeutics of internal diseases.	Complaints, questioning,	PO2	1	Overview lecture	Quick Poll Feedback

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Lecture 1 Methods of examination of patients with pathology of the musculoskeletal system. Diagnostic value	general examination of patients with diseases of the musculoskeletal system. Methodology and technique of examination of the musculoskeletal system. Physical examination of patients with diseases of the musculoskeletal system: inspection, palpation of small and large joints. The main symptoms of diseases of the musculoskeletal system, their diagnostic value.				
Propaedeutics of internal diseases. Practical lesson 1 Methods of examination of patients with pathology of the musculoskeletal system. Diagnostic value	Complaints, questioning, general examination of patients with diseases of the musculoskeletal system. Methodology and technique of examination of the musculoskeletal system. Physical examination of patients with diseases of the musculoskeletal system: inspection, palpation of small and large joints. The main symptoms of diseases of the musculoskeletal system, their diagnostic value.	PO2 PO3 PO4	3	Discussion of the topic of the practical lesson, solving situational problems, learning and performing practical skills.	Checklist for oral questioning, assessment of practical skills k-list.
Propaedeutics of internal diseases. SROP/SRO 1 Methods of examination of patients with pathology of the musculoskeletal system. Diagnostic value	Complaints, questioning, general examination of patients with diseases of the musculoskeletal system. Methodology and technique of examination of the musculoskeletal system. Physical examination of patients with diseases of the musculoskeletal system: inspection, palpation of small and large joints. The	PO2 PO3	1/6	Defense of the presentation and practical skills	Checklist for assessment of presentation and practical skillslist

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		main symptoms of diseases of the musculoskeletal system, their diagnostic value.				
3	Pathological physiology. Lecture 1 Osteopathy	Typical forms of musculoskeletal pathology. Osteopathy, concept, types, etiopathogenesis. Dysregulation of osteogenic cell activity. Osteoporosis and osteomalacia, concept, causes, mechanisms of development, manifestations. Hereditary osteopathies. Rickets, etiology, pathogenesis, manifestations. Clinical significance	PO1	1	Overview lecture	Blitz survey Feedback
	Pathological physiology. Practical lesson 1 Osteopathy	Typical forms of musculoskeletal pathology. Osteopathy, concept, types, etiopathogenesis. Dysregulation of osteogenic cell activity. Osteoporosis and osteomalacia, concept, causes, mechanisms of development, manifestations. Hereditary osteopathies. Rickets, etiology, pathogenesis, manifestations. Clinical significance	PO3 PO5	2	Work in small groups,	Checklist
	Biochemistry. Practical lesson 2 Study of energy metabolism in muscle tissue.	Study of energy metabolism in muscle tissue. Calculation of the rate of ATP resynthesis under different conditions. Comparison of anaerobic and aerobic glycolysis.	PO3 PO5	2	Work in small groups, discussion of the topic, case-study	Checklist
	Biochemistry. SROP/SRO 1 "Biochemical	"Biochemical bases of work and pathologies of the	PO3 PO5	1/7	presentation, glossary,	

	bases of work and pathologies of the musculoskeletal system"	musculoskeletal system"			essay, analysis of scientific articles	
4	Pathological anatomy. Lecture 1 Diseases of the musculoskeletal system	Bone diseases. Tumors and inflammatory diseases of bones and joints. Osteomyelitis. Tuberculosis. Clinical significance	PO1	1	Review lecture	Blitz survey Feedback
	Pathological anatomy. Practical lesson 1 Diseases of the musculoskeletal system	Bone diseases. Rickets. Tumors. Benign and malignant tumors: fibroma, fibrosarcoma, osteoma, osteosarcoma. Acute and chronic osteomyelitis. Tuberculosis. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Clinical significance	PO3 PO5	1	Discussion of the topic, description of macro- and micropreparations with a conclusion, case-study	Checklist description of macro- and micropreparation, checklist for solving a case
	Propaedeutics of childhood diseases. Practical lesson 1 Clinical syndromes of the musculoskeletal system in children.	Rickets, symptoms, causes of rickets in children. Osteomalacia, bone deformities in rickets. Rickets-like syndrome.	PO2 PO3 PO4	1	Discussion of the topic of the practical lesson, solving situational problems	Checklist
	Propaedeutics of childhood diseases. SROP/SRO 1 Symptoms of osteomalacia in rickets.	Rickets, symptoms, causes of rickets in children. Osteomalacia, bone deformities in rickets. Rickets-like syndrome.	PO2 PO3	2/3	Presentation defense	Presentation Evaluation
5	Pharmacology. Lecture 1 Medicines used for diseases of the musculoskeletal system	Drugs used in osteoarthritis. Drugs affecting the formation of the skeleton and regulating calcium-phosphorus metabolism. Basic drugs used in rheumatoid arthritis. Classification, mechanism of action, indications,	PO1	1	Overview lecture	Checklist

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		contraindications, side effects. Peculiarities of use in the age aspect.				
	Pharmacology. Practical lesson 1 Medicines used for diseases of the musculoskeletal system	Drugs used in osteoarthritis. Drugs affecting the formation of the skeleton and regulating calcium-phosphorus metabolism. Basic drugs used in rheumatoid arthritis. Classification, mechanism of action, indications, contraindications, side effects. Peculiarities of use in the age aspect.	PO6	3	Discussion of the topic of the practical lesson, solving situational problems, learning and performing practical skills	Checklist for oral questioning, assessment of practical skills. k-list
	Pharmacology. SROP/SRO 1 Medicines used for rheumatoid arthritis.	Drugs used in rheumatoid arthritis. Classification, mechanism of action, indications, contraindications, side effects. Peculiarities of use in the age aspect.	PO6 PO7	1/6	presentation, glossary, essay, analysis of scientific articles	Checklist for assessment of presentation and practical skillslist
6	Radiation diagnostics. Lecture 2 Age-related radiation anatomy of the musculoskeletal system. Radiation diagnostics of traumatic injuries to bones and joints.	Methods of examination of the musculoskeletal system. Basic and additional methods of examination. Radiography of the musculoskeletal system. Electroradiography of the musculoskeletal system. Linear tomography of the musculoskeletal system. Computer tomography. Magnetic resonance imaging. Radionuclide diagnostics.	PO1 PO2 PO3 PO4 PO5	1	Overview lecture	Blitz survey Feedback
	Radiation diagnostics.Practical lesson 2 Main pathological processes in	Visual diagnostics of the musculoskeletal system. Types of radiation methods for examining the	PO1 PO2 PO3	3	Oral survey, description of pictures, solution of	Checklist

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	bones and their radiation diagnostics.	musculoskeletal system. Features of the musculoskeletal system.			test tasks of control educational cases	
	Radiation diagnostics. SROP/SRO 2 Boundary control No. 1 Radiation diagnostics of traumatic injuries to the musculoskeletal system.	Topics of lectures, practical classes, independent work, covered during 1-6 days of training Radiography of the musculoskeletal system. Magnetic resonance imaging, computer tomography physical and technical principles, principles of operation	PO1 PO2 PO3 PO4 PO5 PO6	1/4	Presentatio n defense.	Checklist
7	Propaedeutics of childhood diseases. Lecture 1 Features of the structure of the skin and its appendages in children. Methodology of skin examination. Semiotics of skin lesions.	Clinical picture of primary and secondary morphological elements of the skin in children of different age groups.	PO2	1	Overview lecture	Blitz Poll Feedback
	Propaedeutics of childhood diseases. Practical lesson 2 Methodology of skin and subcutaneous fat tissue examination. Semiotics of skin lesions, subcutaneous fat tissue, appendages in children of different age groups	Principles of questioning, collecting anamnesis and objective method of examining sick children of different age groups with pathologies of the skin and their appendages. Evaluation of the degree of development, distribution, consistency of fat, soft tissue turgor, presence of edema, emphysema. Insufficient, excessive fat deposition, lipomatosis, lipodystrophy, compaction. Dystrophic, infectious and allergic changes in the skin, features of rashes in children	PO2 PO3 PO4	3	Discussion of the topic of the practical lesson, solving situational problems	Checklist
	Propaedeutics of childhood	Concept, types, causes,	PO2	1/3	Presentatio	Presentati

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	diseases. SROP/SRO 2 Hypomelanosis and hypermelanosis in children. Vascular formations of the skin.	mechanisms of development, clinical picture	PO3		n defense	on Evaluatio n Checklist
8	Propaedeutics of internal diseases. Lecture 2 Leading clinical syndromes in rheumatology (arthritis and arthrosis). Diagnostic value.	Principles of questioning, collecting complaints, anamnesis and objective method of examining patients with leading clinical syndromes (arthritis and arthrosis) of the musculoskeletal system.	PO2	1	Overview lecture	Blitz Poll Feedback
	Propaedeutics of internal diseases. Practical lesson 2 Leading clinical syndromes in rheumatology (arthritis and arthrosis). Diagnostic value.	Principles of questioning, collecting complaints, anamnesis and objective method of examining patients with leading clinical syndromes (arthritis and arthrosis) of the musculoskeletal system	PO2 PO3 PO4	3	Discussion of the topic of the practical lesson, solving situational problems	Checklist
	Propaedeutics of internal diseases. SROP/SRO 2 Leading clinical syndromes in rheumatology (arthritis and arthrosis). Diagnostic value.	Principles of questioning, collecting complaints, anamnesis and objective method of examining patients with leading clinical syndromes (arthritis and arthrosis) of the musculoskeletal system	PO2 PO3	1/6	Presentatio n defense	Presentati on Evaluatio n Checklist
Chec klis t Chec klis t Feed bac k Chec klis t9	Pathological physiology. Practical lesson 2 Arthropathies	Arthropathies, concept, types. Age-related joint involution. Arthritis and arthrosis, concept, types, causes, development mechanisms. Joint syndrome, manifestations. Rheumatoid arthritis, concept, etiology, pathogenesis, manifestations. Clinical significance.	PO3 PO5	2	Work in small groups, discussion of the topic case-study,	Checklist

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	Pathological physiology. SROP/SRO 1 Typical forms of skin pathology	Typical forms of skin pathology. Dermatoses and dermatitis, concept, types, etiopathogenesis, manifestations. Skin resistance to damage. Pigmentation disorders, causes, development mechanisms, manifestations. Hereditary forms of skin pathology. Clinical significance	PO3 PO5	1/8	Case-study	Checklist
	Biochemistry. Lecture 1. Biochemistry of the musculoskeletal system. Biochemistry of muscle and bone tissue.	Biochemistry of the musculoskeletal system. Biochemistry of muscle and bone tissue.	PO3 PO5	1	Case-study review lecture	Feedback
	Biochemistry. Practical lesson 3. Biochemical analysis of bone tissue.	Biochemical analysis of bone tissue. Determination of the composition of the organic matrix and mineral components. Study of the role of vitamin D and its deficiency.	PO3 PO5	1	seminar, testing, situational tasks	Checklist
10	Pharmacology. Lecture 2 Anti-inflammatory drugs. Glucocorticoids.	Nonsteroidal anti-inflammatory drugs. Glucocorticoids. Classification, mechanism of action, indications, contraindications, side effects. Age-related features of use.	PO6	1	Overview lecture	feedback
	Pharmacology. Practical lesson 2 Anti-inflammatory drugs. Glucocorticoids.	Nonsteroidal anti-inflammatory drugs. Glucocorticoids. Classification, mechanism of action, indications, contraindications, side effects. Age-related features of use.	PO6	3	Discussion of the topic of the practical lesson, solving situational problems, learning	Checklist

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					and performing practical skills	
	Pharmacology. SROP/SRO 2 Drugs used in diseases of the musculoskeletal system	Drugs used for osteoarthritis. Drugs that affect skeletal formation and regulate calcium-phosphorus metabolism. Vitamins (vitamin D preparations). Classification, mechanism of action, indications, contraindications, side effects. Age-related features of use.	PO6 PO7	1/6	presentation, glossary, essay, analysis of scientific articles	Presentation evaluation checklist
	Biochemistry. Practical lesson No. 4. Diagnostics and interpretation of biochemical markers of pathologies.	Diagnostics and interpretation of biochemical markers of pathologies. Analysis of osteoporosis and osteomalacia indicators. Study of biochemical changes in myopathies.	PO3 PO5	1	seminar, situational tasks, testing	checklist
11	Propaedeutics of internal diseases. Practical lesson 3 Methods of examining patients with pathology of the musculoskeletal system: laboratory and instrumental methods of examination. Diagnostic value	Methods of examination of patients with pathology of the musculoskeletal system: laboratory (determination of Rheumatoid factor, Antistreptolysin-O, ESR, CBC with leukocyte formula, C-reactive protein, etc.) and instrumental (X-ray examination, MRI, CT, etc.) methods of examination. Diagnostic value	PO2 PO3 PO4	2	Discussion of the topic of the practical lesson, solving situational problems	Checklist
	Propaedeutics of internal diseases. SROP/SRO 3 Methods of examining patients with pathology of the musculoskeletal system:	Methods of examination of patients with pathology of the musculoskeletal system: laboratory (determination of Rheumatoid factor,	PO2 PO3	1/2	Presentation defense	Presentation Evaluation Checklist

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	laboratory and instrumental methods of examination. Diagnostic value	Antistreptolysin-O, ESR, CBC with leukocyte formula, C-reactive protein, etc.) and instrumental (X-ray examination, MRI, CT, etc.) methods of examination. Diagnostic value				
	Pathological anatomy. Practical lesson 2 Skin diseases	Pigmentation disorders. Inflammatory dermatoses. Tumors: skin papilloma, basal cell carcinoma, squamous cell carcinoma, nevus, melanoma, tumors of the skin appendages, capillary hemangioma, leprosy granuloma. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Congenital disorders: Ichthyosis. Clinical significance	PO3 PO5	2	Discussion of the topic, description of macro- and micropreparations with a conclusion,	Checklist
	Pathological anatomy. SROP/SRO 1 Rheumatoid arthritis.	Rheumatoid arthritis. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Clinical significance	PO3 PO5	1/7	Case-study	Checklist
12	Pharmacology. Practical lesson 3 Anabolic steroids.	Anabolic steroids. Mechanism of action, indications, contraindications, side effects. Peculiarities of use in the age aspect.	PO6	2	Discussion of the topic of the practical lesson, solving situational problems, mastering and performing practical skills	Checklist
	Pharmacology. SROP/SRO 3	Central muscle relaxants (mydocalm, baclofen).	PO6 PO7	1/2	presentation, glossary,	Presentation

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	Medicines used for gout. Medicines used for muscle spasms.	Myotropic antispasmodics (drotaverine hydrochloride, papaverine hydrochloride). M-anticholinergics (atropine sulfate, platifillin hydrotartrate). Mechanism of action, indications, contraindications, side effects. Peculiarities of use in the age aspect.			essay, analysis of scientific articles	Evaluation Checklist
	Radiological diagnostics. Practical lesson 3 Radiological diagnostics in arthropathy: approaches, methods and main changes.	Radiography of the musculoskeletal system. Magnetic resonance imaging, computed tomography physical and technical principles, principles of operation	PO1 PO2 PO3	2	Work in small groups, discussion of the topic, case-study	Checklist
	Radiological diagnostics. SROP/SRO 3 Boundary control No. 2 Radiological diagnostics of diseases of the musculoskeletal system.	Topics of lectures, practical classes, independent work, covered during the 7-12th day of training	PO1 PO2 PO3 PO4 PO5 PO6	1/2	Integrated monitoring of educational achievements using control educational cases, testing	Checklist
8.1	Midterm assessment					15 hours
9.	Teaching methods					
9.1	Lectures Review	lectures				
9.2	Practical classes	Work in small groups, discussion of the topic, case study, description of macro- and micropreparations with a conclusion Discussion of the topic of the practical lesson, solving situational problems, mastering and performing practical skills.				
9.3	SROP/SRO	Case study, analysis of scientific articles, project implementation				
9.4	Border control	Defense of the presentation and practical skills. Integrated monitoring of educational achievements using control educational cases, testing				

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10. Assessment criteria					
10.1 Criteria for assessing the results of the discipline					
№ PO	Name of learning outcomes	Unsatisfactory	Satisfactory	Good	Excellent
PO 1	Demonstrates knowledge and understanding of the basics of semiotics and syndromology, etiology, pathogenesis and morphogenesis of pathology of the musculoskeletal system and skin	1. Does not have a basic understanding of semiotics and syndromology, does not identify symptoms and syndromes. 2. Cannot explain the etiology, pathogenesis and morphogenesis of pathological changes in the musculoskeletal system and skin	1. Does not have a basic understanding of semiotics and syndromology, makes gross errors when defining symptoms and syndromes in pathologies of the musculoskeletal system and skin. 2. Makes errors when explaining the etiology, pathogenesis and morphogenesis of pathological changes in the musculoskeletal system and skin	1. Has a basic understanding of semiotics and syndromology, identifies symptoms and syndromes. 2. Explains the etiology, pathogenesis and morphogenesis of pathological changes in the musculoskeletal system and skin, but makes some fundamental inaccuracies	1. Fluently knows the basics of semiotics and syndromology, independently identifies symptoms and syndromes2. Fluently explains the etiology, pathogenesis and morphogenesis of pathological changes in the musculoskeletal system and skin.
PO 2	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 musculoskeletal system and skin	Has knowledge of methods for interviewing patients, conducting physical examinations, uses clinical thinking when collecting information when drawing up a research plan;	Does not have a knowledge of interrogation methods, physical examination of the patient, does not use clinical thinking when collecting information when drawing up a	Has a good understanding of interrogation methods, physical examination of a patient, uses clinical thinking when collecting	Has knowledge of interrogation methods, physical examination of children, uses clinical thinking when collecting information when drawing up a research plan; establishes the

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		establishes the scope of basic and additional studies to clarify the syndrome of damage in pathology of the musculoskeletal system and skin	research plan; does not specify the syndrome of damage in pathologies of the musculoskeletal system and skin	information when drawing up a research plan; establishes the scope of basic research and makes mistakes to clarify the syndrome of damage in pathology of the musculoskeletal system and skin	scope of basic and additional studies to clarify the syndrome of damage in pathologies of the musculoskeletal system and skin
PO 3	Uses clinical thinking in collecting information when interpreting the results of morphological, laboratory and instrumental methods of examining patients with pathology of the musculoskeletal system and skin, formulates a syndromic diagnosis, fills out a medical history	Does not know the results of morphological, laboratory and instrumental methods of examining patients with pathologies of the musculoskeletal system and skin	When interpreting the results of morphological, laboratory and instrumental methods of examining patients with pathologies of the musculoskeletal system and skin, they do not think clinically about collecting information, incorrectly formulate a syndromic diagnosis, and make many mistakes in filling out the medical history	When interpreting the results of morphological, laboratory and instrumental methods of examining patients with pathologies of the musculoskeletal system and skin, has some difficulty in clinical thinking when collecting information, formulates a syndromic diagnosis,	Uses clinical thinking when collecting information when interpreting the results of morphological, laboratory and instrumental methods of examining patients with pathologies of the musculoskeletal system and skin, formulates a syndromic diagnosis, fills out a medical history

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				incorrectly fills out the medical history	
PO 4	Communicates information, ideas, problems and solutions to patients and their family members, knows the norms of ethics and deontology in communicating with patients, their relatives and colleagues	Does not know how to apply knowledge of the musculoskeletal system and skin in a clinical context, has not acquired the skills of collecting a clinical anamnesis and physical examination of patients with diseases of the musculoskeletal system and skin to provide first aid, is not able to interpret the results of laboratory and instrumental studies	Does not fully know how to apply knowledge about pathologies of the musculoskeletal system and skin in a clinical context, makes mistakes when collecting a clinical history and physical examination of patients with diseases of the musculoskeletal system and skin to provide first aid, and is poorly oriented in interpreting the results of laboratory and instrumental studies	Lists information on pathologies of the musculoskeletal system and skin in a clinical context, collects a clinical history and physical examination of patients with diseases of the pathologies of the musculoskeletal system and skin with the provision of first aid, is well versed in interpreting the results of laboratory and instrumental studies	Freely demonstrates knowledge of pathologies of the musculoskeletal system and skin in a clinical context, collects a clinical history and physical examination of patients with diseases of the pathologies of the musculoskeletal system and skin with the provision of first aid, is well versed in interpreting the results of laboratory and instrumental studies
PO 5	Determines pathological processes at the organ and cellular levels, interprets data on the pathophysiology and morphology of diseases taking	1. Is not able to determine pathological processes at the organ and cellular levels, makes gross errors.	1. Determines pathological processes at the organ and cellular levels, but makes	1. Determines pathological processes at the organ	1. Independently determines pathological processes at the organ and cellular

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	into account the clinical data of patients, makes conclusions, explains the patterns of development of complications and outcomes of pathology of the musculoskeletal system and skin, evaluates the results of experimental studies	2. Is not able to interpret data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients. 3. Makes erroneous conclusions, has poor orientation and does not explain the patterns of development of complications and outcomes of blood and lymph pathology. 4. Is not able to evaluate the results of experimental studies, makes fundamental errors. 5. Is not able to solve situational problems	gross errors. 2. Cannot independently interpret data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients. 3. Makes erroneous conclusions, finds it difficult to independently explain the patterns of development of complications and outcomes of pathologies of the musculoskeletal system and skin. 4. Has difficulty evaluating the results of experimental studies, makes fundamental inaccuracies. 5. Solves situational problems, but makes fundamental mistakes.	and cellular levels. 2. Interprets data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients. 3. Makes conclusions, explains the patterns of development of complications and outcomes of pathology of the musculoskeletal system and skin. 4. Evaluates the results of experimental studies, but allows for minor inaccuracies. 5. Solves situational problems	levels. 2. Independently interprets data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients. 3. Makes conclusions, explains the patterns of development of complications and outcomes of pathology of the musculoskeletal system and skin. 4. Evaluates the results of experimental studies. 5. Effectively solves situational problems
PO 6	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 drug interactions in blood and lymph	1. Determines the general pharmacological group 2. Writes out a prescription with errors of drugs.	1. Selects a pharmacological group of drugs by organs and systems.	1. Selects medications for the treatment and prevention of the most common diseases. 2. Writes out a	1. Selects medications from various pharmacological groups in accordance with indications for use, contraindications

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	pathology			prescription for a given medication without errors 3. Calculates the dosage of the medication	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 medication
PO 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	2. Writes a prescription using reference literature/	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. Uses international databases in work. 3. Successfully defends the completed project. 4. Demonstrates motivation for independent work, creatively approaches the completion of 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	Great
A -	3,67	90-94	
B +	3,33	85-89	Fine
B	3,0	80-84	

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B -	2,67	75-79	satisfactory
C +	2,33	70-74	
C	2,0	65-69	
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
Work in small groups (implementation of practical work)	Excellent matches scores 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 of the research results; - made a well-reasoned conclusion, while demonstrating 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, making minor mistakes; - took an active part in the discussion of the research results
	Satisfactory corresponds to points 65-69 60-64 50-54	- completed the practical work on time and submitted a report on it, having made fundamental mistakes; - was not active during the discussion, needed the teacher's help
	Unsatisfactory corresponds to points 25-49	- failed to submit a report on practical work on time, made gross errors, did not complete all the practical work provided for by the program; - did not take part in the discussion of the results of the work
	Неудовлетворительно соответствует баллам 0-24	

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Case-study	Excellent matches scores 95-100 90-94	-solved cases in a certain time; - gave full answers to all questions
	Good corresponds to points 85-89 80-84 75-79 70-74	- solved cases in a certain time; - gave full answers to all questions; - made minor mistakes when solving cases
	Satisfactory corresponds to points 65-69 60-64 50-54	- solved the cases in a certain amount of time; - gave incomplete answers to questions; - made fundamental mistakes when solving the cases
	Unsatisfactory corresponds to points 25-49	Unsatisfactory corresponds to points
	Unsatisfactory corresponds to points 0-24	
Work in small groups (interpretation of clinical laboratory test results)	Excellent matches scores 95-100 90-94	- correctly, without any errors, interpreted the results of clinical laboratory tests; - made a well-founded conclusion
	Good corresponds to points 85-89 80-84 75-79 70-74	- correctly interpreted the results of clinical laboratory tests, making minor errors; - made a well-founded conclusion
	Satisfactory corresponds to points 65-69 60-64 50-54	- correctly interpreted the results of clinical laboratory tests, having made fundamental errors; - made an unfounded conclusion
	Unsatisfactory corresponds to points 25-49	- correctly interpreted the results of clinical laboratory tests, having made fundamental errors;

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	Unsatisfactory corresponds to points 0-24	- made an unfounded conclusion
Discussion of the topic	Excellent matches scores 95-100 90-94	- did not make any mistakes during the discussion; - was familiar with the theories, concepts and directions of the discipline and gave them a critical assessment; - used the scientific achievements of other disciplines
	Good corresponds to points 85-89 80-84 75-79 70-74	- did not make any serious mistakes during the discussion, but made some inaccuracies and minor errors, which he corrected himself; - managed to systematize the program material with the help of the teacher
	Satisfactory 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 great difficulty in systematizing the material
	Unsatisfactory corresponds to points 25-49	- made gross mistakes during the discussion; - did not study the main literature on the topic of the lesson; - failed to use the scientific terminology of the discipline
	Неудовлетворительно соответствует баллам 0-24	
Тестирование	Excellent matches scores 95-100 90-94	- correctly completed 90-100% of test tasks
	Good corresponds to points 85-89 80-84 75-79 70-74	- correctly completed 70-89% of test tasks
	Satisfactory corresponds to points	- correctly completed 50-69% of test tasks

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65-69
60-64
50-54

Unsatisfactory
corresponds to points
25-49

Unsatisfactory
corresponds to points
0-24

- completed less than 50% of test tasks correctly

Checklist for assessing practical skills "Propaedeutics of internal diseases"

Form of control	Grade	Evaluation criteria
Выполнение практических навыков	Excellent corresponds to scores A (4.0; 95-100%); A- (3.67; 90-94%)	- The student is well versed in questioning and examining patients. Correctly and accurately selects questions when collecting anamnesis, accurately analyzes primary and secondary complaints, is well versed in the collected anamnesis of life and disease. - Accurately conduct a physical examination: - general examination (examination of the skin and subcutaneous fat, visible mucous membrane, measurement of respiratory rate, heart rate, blood pressure); - palpation (determination of resistance, soreness, vocal fremitus, localization, amplitude, area, strength, pulsation, consistency, mobility, diameters, peristalsis, zones of soreness, rigidity), - Percussion (determination of comparative, topographic boundaries of the lungs, area, excursion; determination of the absolute and relative boundaries of the heart, configuration, diameter and vascular bundle; determination of the boundaries of the liver, spleen and stomach, tingling symptom); - auscultation (listening to vesicular and bronchial breathing, wheezing, crepitations, pleural friction noise in the lungs; listening to normal and pathological heart tones and murmurs, diastolic and systolic murmurs). - Substantiates and makes a presumptive syndromic diagnosis. - Used additional literature when preparing for the lesson. Systematizes material on the topic. Communicates effectively in medical practice, objectively conveys relevant information, knows and uses ethical and deontological standards when performing the skill;

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Good

- The student is well oriented when questioning and examining patients. Correctly selects questions when collecting anamnesis, accurately analyzes primary and secondary complaints, is well oriented in the collected anamnesis of life and disease.
- Conduct a physical examination well:
 - general examination (examination of the skin and subcutaneous fat, visible mucous membrane, measuring respiratory rate, heart rate, blood pressure);
 - palpation (determination of resistance, soreness, vocal fremitus, localization, amplitude, area, strength, pulsation, consistency, mobility, diameters, peristalsis, zones of soreness, rigidity),
 - Percussion (determination of comparative, topographic boundaries of the lungs, area, excursion; determination of the absolute and relative boundaries of the heart, configuration, diameter and vascular bundle; determination of the boundaries of the liver, spleen and stomach, tingling symptom);
 - auscultation (listening to vesicular and bronchial breathing, wheezing, crepitations, pleural friction noise in the lungs; listening to normal and pathological heart tones and murmurs, diastolic and systolic murmurs).
- Makes a presumptive syndrome-based diagnosis without substantiating the data.

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corresponds to
scores

- The student is able to navigate through questioning and examining patients, analyzes primary and secondary complaints with errors, has poor understanding of the collected anamnesis of life and disease.
- There are errors in conducting a physical examination:
 - general examination (examination of the skin and subcutaneous fat, visible mucous membrane, measurement of respiratory rate, heart rate, blood pressure);
 - palpation (determination of resistance, soreness, vocal fremitus, localization, amplitude, area, strength, pulsation, consistency, mobility, diameters, peristalsis, zones of soreness, rigidity),
 - percussion (determination of comparative, topographic boundaries of the lungs, area, excursion; determination of absolute and relative boundaries of the heart, configuration, diameter and vascular bundle; determination of the boundaries of the liver, spleen and stomach, tingling symptom);
 - auscultation (listening to vesicular and bronchial breathing, wheezing, crepitations, pleural friction noise in the lungs; listening to normal and pathological heart tones and murmurs, diastolic and systolic murmurs).
- Incapable of comparing the relationship between the main symptoms and syndromes. Makes a presumptive syndrome-based diagnosis without substantiating the data
- Low level of communication in medical practice; subjectively conveys relevant information;

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Unsatisfactory
corresponds to points
FX (0.5; 25-49%)

- The student has no idea about the main and secondary complaints, is not guided by the collected anamnesis of life and disease.
- Is not able to conduct practical skills to interpret their results. Does not see the connection between the data of an objective physical examination:
- general examination (examination of the skin and subcutaneous fat, visible mucous membrane, measurement of respiratory rate, heart rate, blood pressure);
- palpation (determination of resistance, soreness, vocal fremitus, localization, amplitude, area, strength, pulsation, consistency, mobility, diameters, peristalsis, zones of soreness, rigidity),
- Percussion (determination of comparative, topographic boundaries of the lungs, area, excursion; determination of the absolute and relative boundaries of the heart, configuration, diameter and vascular bundle; determination of the boundaries of the liver, spleen and stomach, tingling symptom);
- auscultation (listening to vesicular and bronchial breathing, wheezing, crepitations, pleural friction rub in the lungs; listening to normal and pathological heart tones and murmurs, diastolic and systolic murmur).
...
Does not find and is not able to compare the relationship between the main symptoms and syndromes. Makes a presumptive syndrome-based diagnosis without substantiating the data
- Did not participate in the work of the group. Is not able to communicate in medical practice; does not convey proper information, does not know and is not able to use the norms of ethics and deontology when performing the skill.
When answering the teacher's questions, gross errors, not using specific terminology in answers.

Unsatisfactory
corresponds to points
FX (0.5; 25-49%)

Checklist of situational tasks

№	Evaluation criteria	Points
1	Demonstrates original thinking when analyzing a situational task. Fully utilizes theoretical knowledge necessary to solve a given task. Demonstrates excellent knowledge of reference biochemical parameters when interpreting the proposed biofluid analysis data. Demonstrates the ability to draw logical conclusions on a situational task, while demonstrating a deep understanding of the necessary educational material.	«Excellent" 90-100%

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2	Possesses the necessary knowledge to solve this situational task. Allows for minor inaccuracies when discussing this case. Is able to draw correct conclusions on the proposed situational task.	"Good" 70-89%
3	Allows minor inaccuracies when discussing a given task, has difficulty interpreting analyses proposed in a situational task. Draws conclusions with difficulty.	"Satisfactory" 50-69%
4	Allows fundamental errors in discussing a situational task. Passive, unable to draw appropriate conclusions.	"Unsatisfactory" 0-49%

Checklist for practical lesson

№	Evaluation criteria	Level			
		Great	Fine	Satisfactorily	Unsatisfactory
Practical classes:					
1	Written response to the questions of this assignment	30	21	15	0
2	Oral answer to the questions of this task	30	21	15	0
3	Completing test tasks	12	8	6	0
4	Solving situational problems	28	20	14	0
	General:	100	70	50	0

Checklist SRO and SROP

№	Evaluation criteria	Уровень			
		Great	Fine	Satisfactorily	Unsatisfactory
SRO and SROP					
1	Presentation Defense	50	35	25	0
2	Implementation of practical skills	50	35	25	0
	General:	100	70	50	0

Checklist for assessing answers to descriptions of macropreparations

№	Evaluation Criteria/Evaluation	Great	Fine	Satisfactorily	Unsatisfactory
1	Name of the organ	4	3	2	0

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2	Organ size	10	7	5	0
3	Surface: condition of capsule or serous membrane, dullness, shine, overlap	1	1	1	0
4	Characteristics of the pathological focus: Location, size, shape (if an ulcer - the condition of the bottom), color, consistency	5	4	2	0
5	Pathological diagnosis/conclusion	5	4	2	0
6	Total	20	15	10	0

Checklist for assessing answers to descriptions of microscopic specimens

№	Evaluation Criteria/Evaluation	Great	Fine	Satisfactorily	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 assessing the analysis of scientific articles

Score in %	Unsatisfactory (0-49%)	Satisfactory (65-54%)	Fine (70-89%)	Excellent (90-100%)
Evaluation criteria				
Structure of the article	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 research paper but violates the order of the structure	1. Observes the order of the structure of a scientific article when listing: - Title - Authors - Publisher- Резюме

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				- General part (introduction, purpose, materials and methods, results and discussion) - Conclusions - References
Analysis of the content of a scientific article	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 the scientific article 4. Lists the conclusions, the list of references 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 the 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 presents the semantic content of the scientific article 4. Argues and justifies the conclusions 5. Has the skill of using literature and justifies the selected list of literature in this article
Answer to additional questions (on the topic of the article for the discipline)	1. Does not answer additional questions on the topic	1. Does not understand the problem at hand when answering additional questions	1. Apply knowledge gained during practical lessons on the topic when answering additional questions	1. Apply knowledge gained during practical lessons on the topic when answering additional questions, provides deep, comprehensive argumentation

Checklist for assessing scientific article analysis

Checklist for assessing prescription writing

Prescription writing	Excellent 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.
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Good
Meets ratings:
B+ (3.33; 85-89%)
B (3.0; 80-84%)
B- (2.67; 75-79%)
C+ (2.33; 70-74%)

Writes out a prescription for the selected drug without errors.
Calculates the dose of the drug. Limits itself to general instructions
"Internal", "External".

Satisfactory
Corresponds to grades:
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.

Unsatisfactory
FX (0.5; 25-49%)
F (0; 0-24%)

Writes out a prescription with errors.

11 Educational resources

Electronic resources

1. Electronic library of SKMA - <https://e-lib.skma.edu.kz/genres>
2. Republican Interuniversity Electronic Library (RIEL) - <http://rmebrk.kz/>
3. Digital library "Aknurpress" - <https://www.aknurpress.kz/>
4. Electronic library "Epigraph" - <http://www.elib.kz/>

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	5. Epigraph - portal of multimedia textbooks https://mbook.kz/ru/index/ 6. Electronic library system IPR SMART https://www.iprbookshop.ru/auth 7. Information and legal system "Zan" - https://zan.kz/ru 8. Cochrane Library - https://www.cochranelibrary.com/ 20. Website of SKMA:
Electronic textbooks	Ivashkin, V. T. Internal diseases propedeutics [Electronic resource]: textbook / V. T. Ivashkin, A. V. Okhiobystin. - Electronic text data (142 MB). - M.: GEOTAR - Media, 2017. - electronic optical disc (CD-ROM). Internal diseases. Vol. 2 [Electronic resource]: textbook / edited by V. S. Moiseev. - 3rd ed., corrected and enlarged. - Electronic text data (45.1 MB). - M.: GEOTAR - Media, 2015. - 895 p. Internal diseases. Vol. 1 [Electronic resource]: textbook / edited by V. S. Moiseev. - 3rd ed., corrected and enlarged. - Electronic. text data (66.5MB). - M.: GEOTAR - Media, 2015. - 960 p. Ishki aurular./Bimurzaev G.N., Zaripova G.K. , 2020/https://aknurpress.kz/reader/web/2594 Ishki aurular pəninən klinikalyk tapsyrmalar zhinagy. Erzhanova G.A., Mukhanova A.K. , 2016/https://aknurpress.kz/reader/web/2370 Shki aurular propedeuticsynan zhardayattyk tapsyrmalar Orazova B.O., Marchenko T.V. , 2016 /https://aknurpress.kz/reader/web/2348 Propaedeutics of internal diseases: Textbook. / TS Ryabova, ES Ryss, VY Plotkin et al. - SPb.: SpetsLit, 2015. - 414 p.http://rmebrk.kz/ Internal diseases in the work of a general practitioner: Tutorial. / K.Zh. Sadykova, Sh.U. Skenderova, SK Sattieva. - Turkestan: Turan, 2017. - 96 p. http://rmebrk.kz/ Zhamankulov, Kydyrkozha Abdolkarimuly.Ishki aurular [Matin]: okulyk / Қ. A. Zhamankulov; Batys Kazakhstan meme. medicine academician.. - Aktobe: [b. zh.], 2013. - 669 b. https://elib.kaznu.kz/book/1767 Propaedeutics of internal diseases: Textbook. – 6th ed., I - volume reworked and additional (Text. lit. For students of medical universities). – Almaty: Evero, 2020. – 400 p. https://elib.kz/ru/search/read_book/676/ Propaedeutics of Internal Diseases: Textbook. - 6th ed., Volume II revised and enlarged. (Textbook. literature. For students of medical universities). - Almaty: Evero, 2020. - 212 p. https://elib.kz/ru/search/read_book/682/ Propaedeutics of Internal Diseases: Textbook. - 6th ed., Volume III revised and enlarged. (Textbook. literature. For students of medical universities). - Almaty: Evero, 2020. - 208 p. https://elib.kz/ru/search/read_book/684/ Nursultanova S.D., Bakirova R.E., Mamashalieva S.B., Bekov E.K., Madieva L.S. technics. Oku-ədistemelik kural.- Almaty, “Evero” baspasy. -2020. https://elib.kz/ru/search/read_book/705/Ахметов Қайырғали Жәлелұлы. Ішкі

ONTÜSTIK QAZAQSTAN MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ  SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия»		
Кафедра химии, биохимии и молекулярной биологии Кафедра патологии и судебной медицины Кафедра фармакологии, фармакотерапии и клинической фармакологии Кафедра пропедевтики внутренних болезней Кафедра «Педиатрия-1» Кафедра фтизиопульмонологии и радиологии		Стр.39 из 28
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	Propaedeutics of diseases clinical lectures. Almaty: "Evero", 2020. – 262 pages https://elib.kz/ru/search/read_book/22/ Propaedeutics of internal diseases. Textbook Aitmbet B.11- Almaty "Evero" 2018, -568 pages. https://elib.kz/ru/search/read_book/3086/
Laboratory Physical Resources	
Literature	Basic Literature (BL) Vasilenko, V. Kh. Propedeutics is an internal disease. T. 1. : Textbook / V. Kh. Vasilenko, V. V. Vasilenko; . - Almaty: Newbook, 2021. - 400 p. Vasilenko, V. Kh. Propedeutics is an internal disease. T. 2. : Textbook / V. Kh. Vasilenko, V. V. Vasilenko; . - Almaty: Newbook, 2021. - 212. p. Vasilenko, V. Kh. Propedeutics is an internal disease. T. 3. : Textbook / V. Kh. Vasilenko, V. V. Vasilenko; . - Almaty: Newbook, 2021. - 208. p. Mukhin, N. A. Internal medicine propaedeutics: textbook. - M. : GEOTAR - Media, 2015. - 672 pages- Vasilenko, V. Kh. Propaedeutics of internal diseases. T. 1. [Text] : textbook / V. Kh. Vasilenko, V. V. Vasilenko ; mem. language aud. K. Askambay. - Almaty : Evero, 2015. - 336 p. s Vasilenko, V. Kh. Propaedeutics of internal diseases. T. 2 [Text] : textbook / V. Kh. Vasilenko, V. V. Vasilenko ; mem. language aud. K. Askambay. - Almaty : Evero, 2015. - 176 p. s Vasilenko, V. Kh. Propaedeutics of internal diseases. T. 3 [Text] : textbook / V. Kh. Vasilenko, V. V. Vasilenko ; mem. language aud. K. Askambay. - Almaty: Evero, 2015. - 192 p. s Aitbembet, B. N. Propaedeutics of internal diseases: textbook Almaty: Evero, 2014. - 568 p. - Makolkin, V. I. Internal diseases: textbook. - M.: GEOTAR - Media, 2014. - 976 p. Grebenev, A. L. Propaedeutics of internal diseases [Text]: textbook / A. L. Grebenev. - 5th ed., revised and supplemented. - Almaty: Evero, 2014. - 520 p. "Respiratory system" module: integrated textbook = Module "Respiratory system": integrated textbook / S. K. Zhaugasheva [ed. p.] ; responsible editors S. B. Zhautikova, S. D. Nursultanova. - M.: "Litterra", 2014. - 272 p. p. "Cardiovascular system" module: integrated textbook = Module "Cardiovascular system": integrated textbook / S. B. Zhaugasheva [ed. p.] ; responsible editor S. B. Zhautikova, S. D. Nursultanova. - M.: "Litterra", 2014. - 344 p. p. : ill. "Digestive system" module: integrated textbook = Module "Digestive system": integrated textbook / S. K. Zhaugasheva [ed. p.] ; responsible editor S. B. Zhautikova, S. D. Nursultanova. - M.: "Litterra", 2014. - 376 p. p. : ill. "Excretory system" module: integrated textbook = Module "Urinary system": integrated textbook / S. K. Zhaugasheva [ed. p.] ; responsible editor S. B. Zhautikova, S. D. Nursultanova. - M. : Litterra, 2014. - 256 p. p. : ill. "Blood-forming system" module: integrated textbook = Module "Hematopoietic system": integrated textbook / S. K. Zhaugasheva [ed. p.] ;

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	responsible editor S. B. Zhautikova, S. D. Nursultanova. - M.: "Littera", 2014. - 288 p. p. "Endocrine system" module: integrated textbook = Module "Endocrine system": integrated textbook / S. K. Zhaugasheva [ed. p.] ; responsible editor S. B. Zhautikova, S. D. Nursultanova. - M.: "Littera", 2014. - 328 p. p. "Musculoskeletal system" module: integrated textbook = Module "Musculoskeletal system": integrated textbook / S. K. Zhautikova [ed. p.] ; responsible ed. S. B. Zhautikova, S. D. Nursultanova. - M.:Littera, 2014. - 240 p. p. : ill. "Nervous system" module: integrated textbook = Module "Nervous system": integrated textbook / S. K. Zhautikova [ed. p.] ; responsible ed. S. B. Zhautikova, S. D. Nursultanova. - M.: "Littera", 2014. - 264 p. p. : ill. Vasilenko, V. K. Propaedeutics of internal diseases. 1-volume: textbook / - Almaty: "Evero", 2017. - 364 p. Vasilenko, V. K. Propaedeutics of internal diseases. Volume 2: textbook / - Almaty: "Evero", 2017. - 364 p. Vasilenko, V. K. Propaedeutics of internal diseases. 3-volume: textbook / - Almaty: "Evero", 2017. - 188 p 1. Biochemistry, pod ed. Chl.-corr. RAN, prof. E.S. Severina.- M., 2011 2. Tapbergenov S.O. "Medical and clinical biochemistry." - Evero, 2017. Itom; 3. Tapbergenov S.O. "Medical and clinical biochemistry." - Evero Further reading (FBL). Omarov, TR Emergencies in the Clinic of Internal Medicine [Text]: a tutorial / TR Omarov, VA Omarova. - Karaganda: AKNUR, 2019. - 518 p. Diagnosis of diseases of internal organs. Formulation, classification [Text]: a tutorial / edited by V. A. Akhmedov. - M.: GEOTAR - Media, 2016. - 256 Mukhin, NA Selected lectures on internal medicine [Text]: lecture / NA Mukhin. - 2nd ed. - M.: GEOTAR - Media, 2017. - 328 p. Ishki aurular boyynsha objectivetendirilgen kuramdaytyrylgan klinikalyk emtihan: oku-adistemelik kural = Objective structured clinical examination in internal diseases: educational methodological manual / M. Ospanov atyndagy BKMMU; Kuras. K.Zh. Akhmetov [reinforced concrete]. - M.: "Littera", 2016. - 368 b. Textbook: educational and methodological tool / G. M. Yesenzhanova [Zh. p.] ; Ministry of Health and Social Development of the Republic of Kazakhstan. - 2nd ed. complete. and edited. - Karaganda: JK "Aknur", 2015. - 80 p. Akhmetov K. Clinical lectures on propaedeutics of internal diseases; teaching tool PDB Main: 1. Isaeva, L. A. Children's diseases. Volume 1]: textbook. - Almaty: Evero, 2015. 2. Isaeva, L. A. Children's diseases. Volume 2: textb
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12	Discipline Policy
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Requirements for students (attendance, behavior, grading policy, penalties, incentives, etc.)

- observe medical ethics and deontology;
- do not smoke in the academy;
- keep the department clean;
- do not damage furniture in classrooms;
- treat textbooks with care;
- maintain the appearance of a medical university student;
- comply with safety regulations;
- wear medical masks during quarantine and comply with sanitary and epidemiological regulations;
- do not miss classes without a good reason;
- make up classes missed for a good reason on time, but only with permission from the dean's office and at the time determined by the teacher;
- do not be late for classes;
- have the necessary documentation in class: syllabus, methodological instructions for classes, lectures, notebook and textbook;
- prepare for classes in good faith;
- be active during classes;
- do not engage in extraneous activities during classes: do not talk, do not smoke, do not chew gum, do not eat, 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;
- complete SRO on time.

Penalties for failure to complete sections of the work:

- if you miss lectures without a good reason, your midterm assessment grade is reduced - 1 point for each missed lecture;
- if you miss SRO without a good reason, your midterm assessment grade is reduced - 2 points for each missed class;
- in case of a single violation of the discipline policy, the student is given a warning;
- in case of a systematic violation of the discipline policy, information about the student's behavior is sent to the faculty dean's office.

Criteria for non-admission to the final assessment:

a student who has received an unsatisfactory grade for one of the types of assessments (RC 1, RC 2, average grade of the current assessment) is not admitted to the final assessment 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 assessment, the average grade of the midterm assessment, and the grade of the final assessment.

Final grade (100%) = RD (60%) + IC (40%)

RD (60%) = RKsr (20%) + TKsr (40%)

RKsr = (RK1 + RK2):

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	Final grade (100%) = PKcp x 0.2 + TKcp x 0.4 + IK x 0.4 RD – admission rating IK – final control grade PKcp – average grade of midterm control taking into account penalty points TKcp – average grade of current control taking into account SRO PK1 – midterm control 1 PK2 – midterm control 2
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Кафедра фармакологии, фармакотерапии и клинической фармакологии
Кафедра пропедевтики внутренних болезней
Кафедра «Педиатрия-1»
Кафедра фтизиопульмонологии и радиологии

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14	Согласование, утверждение и пересмотр		
Дата согласования с Библиотечно-информационным центром	Протокол № <u>9</u> « <u>14</u> » <u>06</u> 2024г	Ф.И.О. руководителя БИЦ Дарбичева Р.И.	Подпись <u>[подпись]</u>
Дата утверждения на кафедре биологии и биохимии	Протокол № <u>13</u> « <u>30</u> » <u>05</u> 2024г	Ф.И.О. заведующего кафедрой Есиркепов М.М.	Подпись <u>[подпись]</u>
Дата утверждения на кафедре патологии и судебной медицины	Протокол № <u>11</u> « <u>26</u> » <u>05</u> 2024г	Ф.И.О. заведующего кафедрой Садыкова А.Ш.	Подпись <u>[подпись]</u>
Дата утверждения на кафедре фармакологии, фармакотерапии и клинической фармакологии	Протокол № <u>11</u> « <u>10</u> » <u>06</u> 2024г	Ф.И.О. заведующего кафедрой Токсанбаева Ж.С.	Подпись <u>[подпись]</u>
Дата утверждения на кафедре пропедевтики внутренних болезней	Протокол № <u>10</u> « <u>30</u> » <u>05</u> 2024г	Ф.И.О. заведующего кафедрой Бекмурзаева Э.К.	Подпись <u>[подпись]</u>
Дата утверждения на кафедре «Педиатрия-2»	Протокол № <u> </u> « » 2024г	Ф.И.О. заведующего кафедрой Кемелбеков К.С.	Подпись <u>[подпись]</u>
Дата утверждения на кафедре фтизиопульмонологии и радиологии	Протокол № <u>14</u> « <u>13</u> » <u>06</u> 2024г	Ф.И.О. заведующего кафедрой Касаева Л.Т.	Подпись <u>[подпись]</u>
Дата одобрения на АК ОП	Протокол № <u>11</u> « <u>14</u> » <u>06</u> 2024г	Ф.И.О. председателя АК ОП Калменов Н.Ж.	Подпись <u>[подпись]</u>