

**СИЛЛАБУС**  
**ҚАН ТҮЗУ ЖҮЙЕСІНІҢ ПАТОЛОГИЯСЫ ЖӘНЕ ТРАНСФУЗИОЛОГИЯ**  
**ПАТОЛОГИЯ КРОВЕТРОВОЙ СИСТЕМЫ И ТРАНСФУЗИОЛОГИЯ**  
**PATHOLOGY OF THE HEMATOPOIETIC SYSTEM AND TRANSFUSIOLOGY**

<b>1.</b>	<b>General information about the discipline</b>		
1.1	Faculty/School: Medicine and Healthcare Department of Internal Medicine	1.6	Credits (ECTS): 4 credits – 120 hours, of which 60 are contact hours (practical training)
1.2	Educational program (EP): <b>6B10114 Медицина</b> <b>6B10114 Медицина</b> <b>6B10114 Medicine</b>	1.7	SIW/SPM/SRD (qty): 40 hours
1.3	Agency and year of accreditation of the EP	1.8	SRSP/SRMP/SRDP (number): 20 hours
1.4	Name of discipline: Қан түзу жүйесінің патологиясы және трансфузиология /Патология кроветворной системы и трансфузиология /Pathology of the hematoipoietic system and transfusiology	1.9	<b><u>Prerequisites:</u></b> 1. Жалпы патология/Общая патология/General pathology 2. Науқас және дәрігер/Пациент и врач/Patient and doctor  <b><u>Postrequisites:</u></b> Ішкі аурулар/Внутренние болезни/Internal medicine Педиатрия және неонатология /Педиатрия и неонатология /Pediatrics and neonatology. Хирургия /Хирургия /Surgery. Клиникалық зертханалық диагностика /Клиническая лабораторная диагностика /Clinical laboratory diagnostics
1.5	Discipline ID: <b>103326</b> Discipline code: <b>PSKT 3305</b>	1.10	<b><i>Required - the basic discipline</i></b>
<b>2.</b>	<b>Description of the discipline</b>		
	During the course of the course to form students' abilities: The discipline includes the study of immunopathogenesis, pathomorphology, clinical presentation of problems (clinical syndromes) and clinically oriented pharmacology of hematopoietic pathology and transfusiology. The main syndromes are anemic, sideropenic, cytopenic, lymphomyeloproliferative, hemorrhagic, hemolytic. A well-founded syndromic diagnosis and principles of treatment, taking into account the age of the patient.		
<b>3</b>	<b>Purpose of the discipline</b>		
	Mastering basic knowledge and skills in the diagnosis and management of patients with pathology of the hematopoietic system and transfusiology		
<b>4.</b>	<b>Learning outcomes (LO) by discipline (3-5)</b>		

	LO disciplines		LO according to the educational program, with which the LO is associated by discipline (LO No. from the EP passport)
1	1. Apply knowledge on the etiology and immunopathogenesis of hematopoietic pathology in the process of diagnosis and treatment	Proficiency level-3	1. Apply and integrate in practice knowledge in the field of biomedical, clinical, epidemiological and social-behavioral sciences, including generally accepted, evolving and constantly updated knowledge to solve clinical problems and into the care of individuals and populations.
2	2. Be able to conduct targeted questioning and physical examination of the patient, taking into account age characteristics with pathology of the hematopoietic system and transfusiology.	Proficiency level-3	2. Use interpersonal and communication skills to effectively share information and collaborate with patients, their families and healthcare professionals, including using information technology to provide safe and effective patient care;
3	3. To determine diagnostic and therapeutic interventions and transfusions in the pathology of the hematopoietic system	Proficiency level-3	3. Provide effective patient-centered medical care, including appropriate activities aimed at the diagnosis, treatment and prevention of diseases using the principles of evidence-based medicine;
4	4. Interpret the data of laboratory and instrumental examination for pathology of the hematopoietic system and for transfusion	Proficiency level-2	4. Integrate clinical knowledge and skills to ensure an individual approach in the treatment of a particular patient and improve his health in accordance with his needs, based on the analysis of the rationality of diagnosis and treatment, the principles of evidence-based and personalized medicine;
5	5. Integrate knowledge to identify the main syndromes of hematopoietic system damage: anemic, sideropenic, cytopenic, plethoric, hemolysis syndrome, myelo-lymphoproliferative, hemorrhagic, hemostasis disorder, DIC	Proficiency level-3	5. Timely and effectively provide medical care in emergency and life-threatening conditions, including emergency situations, natural and man-made disasters, pandemics, on the principles of humanity, safety and efficiency;
6	6. Describe the social, economic, ethnic and racial factors that play a role in the development, diagnosis and treatment of hematological diseases;	Proficiency level-2	6. Demonstrate professionalism and commitment to conscientious performance of professional duties based on high standards of ethics and humanism;
7	7. Apply the classification of drugs used in hematology, understand the mechanism of action, pharmacokinetics, analyze side effects, indications and contraindications for the use of drugs affecting hematopoiesis using the principles of evidence-based medicine;	Proficiency level-3	7. Demonstrate the qualities necessary to maintain continuous personal and professional growth, continuous improvement in the quality of medical care based on continuous self-assessment and lifelong learning;
8	8. Apply knowledge on hemotransfusion and its types and main blood substitutes	Proficiency level-2	8. Responsibly carry out their activities within the framework of the existing legal and regulatory framework of the health care system and be guided by them in their practical activities to ensure optimal medical care;

9	9. Demonstrate the ability to effectively conduct medical interviews, taking into account the rules and norms of the doctor-patient relationship and knowledge of the basic principles of human behavior at different age periods, in normal and abnormal behavior, in different situations;	Proficiency level-2	9. Analyze the results of the treatment of their patients, critically evaluate and implement the principles of treatment based on scientific evidence;
10	10. Demonstrate commitment to the highest standards of professional responsibility and honesty; -observe ethical principles in all professional interactions;	Proficiency level-3	10. Analyze and maintain the necessary documentation in healthcare organizations using modern information and digital technologies and healthcare information systems to solve professional problems and conduct scientific research;
	11. Demonstrate the need for continuous professional training and improvement of their knowledge and skills;	Proficiency level-3	11. Apply knowledge of a complex of factors that determine health and disease in order to prevent, promote health and promote a healthy lifestyle.
	12. Demonstrate the skills of conducting scientific research, striving for new knowledge and transferring knowledge to others.	Proficiency level-3	12. Work effectively and improve the healthcare system, paying attention to the quality, safety and value of patient care.
<b>5.</b>	<b>Summative assessment methods</b> (mark (yes – no) / specify your own):		
5.1	MCQ testing for understanding and application	5.5	Scientific project SSRW (student’s scientific research work)
5.2	Practical skills – Miniclinical exam (MiniCex)	5.6	360 score - behavior and professionalism
5.3	3. SIW- <b>creative task</b>	5.7	Midterm control: Stage 1 - MCQ testing for understanding and application Stage 2 – passing practical skills (miniclinical exam (MiniCex))
5.4	Medical history	5.8	Exam: Stage 1 - Testing on MCQ for understanding and application Stage 2 - OSCE with NP

<b>6.</b>	<b>Detailed information about the discipline</b>		
6.1	Academic year: 2024-2025	6.3	Timetable (сабақ күні, уақыт): From 8.00 to 14.00
6.2	Semester: 5 semester	6.4	Place (educational building, office, platform and link to the DOT learning meeting): City Clinical Hospital №1, City Clinical Hospital №7
<b>7.</b>	<b>Discipline leader</b>		
Position	Full name	Department	Contact information (tel., e-mail)
			Consultations before exams

Senior lecturer	Bugibaeva A.B.	Internal medicine	8-702-447-46-31	Before the examination session within 60 minutes
<b>8.</b>	<b>The content of the discipline</b>			
	Name of the discipline	Quantity of hours	Conducting form	
1.	Features of sampling material for laboratory testing. Clinical and laboratory syndromes in blood diseases. The hemogram is normal and with various pathologies of internal organs	6	Formative assessment: 1. Using active learning methods: working in small groups 2. Working with laboratory examination data 3. Determination of blood type	
2.	Anemic syndrome. Sideropenic syndrome. Features in children.	6	Formative assessment: 1. Using active learning methods: TBL or CBL 2. Working with laboratory examination data 3. Analysis of patient tests	
3.	Cytopenic syndrome.	6	Formative assessment: 1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Analysis of patient tests	
4.	Hemolysis syndrome.	6	Formative assessment: 1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Training in the simulation center 4. Analysis of patient tests	
5.	Transfusion of blood components	6	Formative assessment: 1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Training in the simulation center 4. Analysis of patient tests	
<b>Midterm control 1</b>		Summative evaluation: 2 stages: 1-stage – MCQ testing for understanding and application - 40% 2-stage – mini clinical exam (MiniCex) - 60%		
6.	Plethoric syndrome	6	Formative assessment: 1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Analysis of patient tests	
7.	Myeloproliferative syndrome	6	Formative assessment:	

			1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Analysis of patient tests
8.	Lymphoproliferative syndrome	6	Formative assessment: 1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Analysis of patient tests
9.	Hemorrhagic syndrome	6	Formative assessment: 1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Analysis of patient tests
10.	Disorders of vascular hemostasis	6	Formative assessment: 1. Using active learning methods: TBL 2. Working with laboratory examination data 3. Analysis of patient tests
11.	DIC (disseminated intravascular coagulation, consumption coagulopathy, thrombohemorrhagic syndrome)	6	Formative assessment: 1. Using active learning methods: TBL 2. Work with the patient for at least 20% of the study time 3. Training in the simulation center
<b>Midterm control 2</b>		Summative evaluation: 2 stages: 1-stage – MCQ testing for understanding and application - 40% 2-stage – mini clinical exam (MiniCex) - 60%	
<b>Final control (Exam)</b>		Summative evaluation: 2 stages: 1-stage – MCQ testing for understanding and application - 40% 2- stage – OSCE with NP - 60%	
<b>Total</b>		<b>100</b>	
<b>9.</b>	<b>Methods of teaching in the discipline</b> (briefly describe the approaches to teaching and learning that will be used in teaching) Using active learning methods: TBL, CBL		
1	<b>Methods of formative assessment:</b> TBL – Team Based Learning ( <a href="https://classroom.google.com/w/MzM5OTU5MjU0OTM0/t/all">https://classroom.google.com/w/MzM5OTU5MjU0OTM0/t/all</a> ) CBL – Case Based Learning ( <a href="https://www.queensu.ca/ctl/resources/instructional-strategies/case-based-learning#:~:text=What%20is%20Case%2DBased%20Learning,group%20to%20examine%20the%20case.">https://www.queensu.ca/ctl/resources/instructional-strategies/case-based-learning#:~:text=What%20is%20Case%2DBased%20Learning,group%20to%20examine%20the%20case.</a> )		
2	<b>Summative assessment methods (from point 5):</b> 1. MCQ testing for understanding and application		

	2. Passing practical skills - miniclinical exam (MiniCex)		
	3. SIW - <b>creative task</b>		
	4. Medical history		
	5. Scientific project SSRW (student's scientific research work)		
	6. Curation, clinical skills		
<b>10.</b>	<b>Summative assessment</b>		
<b>Nº</b>	<b>Forms of control</b>	<b>General % from total %</b>	
1	Curation, clinical skills	20% (estimated by the checklist)	
2	SIW (case, video, simulation OR research thesis, report, article) – assessment of a creative task	10% (estimated by the checklist)	
3	Border control	70% (1-stage – MCQ testing for understanding and application - 40%; 2- stage – mini clinical exam (MiniCex) - 60%)	
<b>Final mark- 1</b>		10+20% +70% = 100%	
1	Patient history defence	20% (estimated by the checklist)	
2	SIW (case, video, simulation OR research thesis, report, article) – assessment of a creative task	10% (estimated by the checklist)	
3	Border control	70% (1-stage – MCQ testing for understanding and application - 40%; 2- stage – mini clinical exam (MiniCex) - 60%)	
<b>Final mark- 2</b>		20+10+70 = 100%	
9	Exam	<b>2 stages:</b> 1st stage - testing on MCQ for understanding and application - 40% 2nd stage - OSCE with NP - 60%	
10	<b>Final score:</b>	ORD 60% + Exam 40%	
<b>10.</b>	<b>Score</b>		
<b>Rating by letter system</b>	<b>Digital equivalent</b>	<b>Points (% content)</b>	<b>Assessment Description</b> (changes should be made only at the level of the decision of the Academic Committee on the quality of the faculty)
A	4,0	95-100	<b>Excellent.</b> Exceeds the highest job standards.
A-	3,67	90-94	<b>Excellent.</b> Meets the highest job standards.
B+	3,33	85-89	<b>Good.</b> Very good. Meets high job standards.
B	3,0	80-84	<b>Good.</b> Meets most of the job standards.
B-	2,67	75-79	<b>Good.</b> More than enough. Shows some reasonable ownership of the material.

C+	2,33	70-74	<b>Good.</b> Acceptable. Meets the basic standards of the task.
C	2,0	65-69	<b>Satisfactory.</b> Acceptable. Meets some basic job standards.
C-	1,67	60-64	<b>Satisfactory.</b> Acceptable. Meets some basic job standards.
D+	1,33	55-59	<b>Satisfactory.</b> Minimally acceptable.
D	1,0	50-54	<b>Satisfactory.</b> Minimally acceptable. The lowest level of knowledge and completion of the task.
FX	0,5	25-49	<b>Unsatisfactory.</b> Minimally acceptable.
F	0	0-24	<b>Unsatisfactory.</b> Very low productivity.

**11. Educational resources** (use the full link and specify where you can access the texts/materials)

Literature	<b>Main Available in the library</b>		
	<b>Author</b>	<b>Name of the book, publisher</b>	<b>Year of publication</b>
	Nicholas J Talley, Brad Frankum & David Currow. Essentials of Internal medicine	Elsevier. 3d edition, Chapter 8,9 p 153-228 – <b>1 экземпляр</b>	2014
	Rau, Ramesh R	Rau, Ramesh R. Clinical Cardiology : Made Easy® / R. R. Rau, 2015. - 257 p. - Текст : <b>непосредственный.</b>	2015
	С. К. Жауғашева, С. Б. Жәутікова, М. Т. Алиякпаров, М. М. Түсіпбекова	Тірек-қимыл жүйесі модулі : оқулық / С. К. Жауғашева, С. Б. Жәутікова, М. Т. Алиякпаров, М. М. Түсіпбекова ; жауапты ред.: С. Б. Жәутікова, С. Б. Нұрсұлтанова ; серия ред. Р. С. Досмағамбетова, 2014. - 237, [3] б. - Текст : <b>непосредственный.</b>	2014
Р. С. Досмағамбетова	Ішкі аурулар : оқулық : 2 томдық / жалпы ред. басқ. Р. С. Досмағамбетова ; жауапты ред. Л. Г. Турғунова ; ред. басқ.: В. С. Моисеев [және т.б.] ; қазақ тіл. ауд.: Ә. Р. Алина, Г. Ғ. Оспанова. 1-том, 2015. - 760, [1] б. - Текст : <b>непосредственный.</b>	2015	

	Р. С. Досмағамбетова	Ішкі аурулар : оқулық : 2 томдық / жалпы ред. басқ. Р. С. Досмағамбетова ; жауапты ред. Л. Г. Тургунова ; ред. басқ.: В. С. Моисеев [және т.б.] ; қазақ тіл. ауд.: Ә. Р. Алина, Г. Ф. Оспанова. 1-том, 2015. - 760, [1] б. - Текст : непосредственный.	2015
	Ахметов, Қайырғали Жәлелұлы	Ахметов, Қайырғали Жәлелұлы. Ішкі аурулар пропедевтикасы пәнінің клиникалық дәрістері : оқу құралы / Қ. Ж. Ахметов, 2018. - 265 б. - Текст : непосредственный.	2018
	П. П. Огурцов, В. Е. Дворников	Неотложная кардиология : учеб. пособие / под ред.: П. П. Огурцов, В. Е. Дворников, 2020. - 262, [2] с. - Текст : непосредственный.	2020
	Байдурин, Серик Амангельдинович	Байдурин, Серик Амангельдинович. Принципы диагностики заболеваний внутренних органов : учеб. пособие / С. А. Байдурин, Ф. К. Бекенова, 2015. - 207 с. - Текст : непосредственный.	2015
<b>Additional Available in the library</b>			
	<b>Author</b>	<b>Name of the book, publisher</b>	<b>Year of publication</b>
	Muzdubayeva, Zhanna Ergalievna.	Diagnosis and Principles of Treatment of Hematological Diseases : methodical guidance / Zh. E. Muzdubayeva, 2016. - 117, [1] p. - Текст : непосредственный.	2016
	Ішкі аурулар Гематология модулі : оқулық / Л. Г. Тургунова, Е. М. Ларюшина, Н. С. Умбеталина [және т.б.] ; серия ред. Р. С. Досмағамбетова ; [жауапты ред.: Л. Г. Тургунова, Е. М. Ларюшина], 2016. - 239, [1] б. - Текст : непосредственный.		2016
	Кишкун, Алексей Алексеевич.	Клиникалық лабораториялық диагностика : оқу құралы / А. А. Кишкун ; қазақ тіл., жауапты ред. А. Ж. Сейтембетова, 2017. - 957, [2] б. - Текст : непосредственный.	2017
	Кишкун, Алексей Алексеевич.	Клиническая лабораторная диагностика : учеб. пособие / А. А. Кишкун, 2019. - 996, [2] с. - Текст : непосредственный	2019



Дуйсебаева, Алия Таттибаевна. Ультразвуковая диагностика в кардиологии : учеб. пособие / А. Т. Дуйсебаева, 2018. - 470 с. - Текст : непосредственный.	2018
Дифференциальная диагностика внутренних болезней / Российское научное медицинское общество терапевтов, 2018. - 927, [1] с. - Текст : непосредственный.	2018
Косарев, Владислав Васильевич. Клиническая фармакология и рациональная фармакотерапия : учеб. пособие / В. В. Косарев, С. А. Бабанов, 2019. - 235, [1] с. - Текст : непосредственный.	2019

**Available at the department (link to Classroom)**

<b>Author</b>	<b>Name of the book, publisher</b>	<b>Year of publication</b>
С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б	«Қан түзуші жүйесі» модулі : модуль «Кровотворная система» : Интеграцияланған оқулық : казак және орыс тілдерінде / — М.: Литтерра, 2014. — 288 б	2014
Кузник Б.И.	Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.	2010
Андерсон, Ш.	Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с	2007
С.А. Волкова, Н.Н. Боровков	Основы клинической гематологии: учебное пособие /. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с	2013
A. Victor Hoffbrand, Paul A. H. Moss	Hoffbrand's essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.-2016	2016
Dacie and Lewis	Practical Haematology	2017
Сараева Н. О.	Гематология : учебное пособие	2015
Shauna C. Anderson Young	ANDERSON'S Atlas of Hematology THIRD EDITION	2021
Nicholas J Talley, Brad Frankum & David Currow.	Essentials of Internal medicine Elsevier. 3d edition	2015
	Harrisson's Manual of Medicine/ 20th Edition	2020
Jonathan Gleadle	History and Clinical Examination at a Glance	2012

Electronic resources	<p><b>Internet resources:</b></p> <ol style="list-style-type: none"> <li>1. Medscape.com - <a href="https://www.medscape.com/familymedicine">https://www.medscape.com/familymedicine</a></li> <li>2. Oxfordmedicine.com - <a href="https://oxfordmedicine.com/">https://oxfordmedicine.com/</a></li> <li>3. Uptodate.com - <a href="https://www.wolterskluwer.com/en/solutions/uptodate">https://www.wolterskluwer.com/en/solutions/uptodate</a></li> <li>4. Osmosis - <a href="https://www.youtube.com/c/osmosis">https://www.youtube.com/c/osmosis</a></li> <li>5. Ninja Nerd - <a href="https://www.youtube.com/c/NinjaNerdScience/videos">https://www.youtube.com/c/NinjaNerdScience/videos</a></li> <li>6. CorMedicale - <a href="https://www.youtube.com/c/CorMedicale">https://www.youtube.com/c/CorMedicale</a> - medical video animations in Russian language.</li> <li>7. Lecturio Medical - <a href="https://www.youtube.com/channel/UCbYmF43dpGHZ8gi2ugiXr0Q">https://www.youtube.com/channel/UCbYmF43dpGHZ8gi2ugiXr0Q</a></li> <li>8. SciDrugs - <a href="https://www.youtube.com/c/SciDrugs/videos">https://www.youtube.com/c/SciDrugs/videos</a> - video lectures on pharmacology in Russian language.</li> <li>9. <a href="https://geekymedics.com/category/osce/clinical-examination/">https://geekymedics.com/category/osce/clinical-examination/</a></li> </ol>
Simulators in the simulation center	
Special software	<ol style="list-style-type: none"> <li>1. Google classroom - available in the public domain.</li> <li>2. Medical calculators: Medscape, Physician's Handbook, MD+Calc - freely available.</li> <li>3. Directory of diagnostic and treatment protocols for medical workers from the RCHD, the Ministry of Health of the Republic of Kazakhstan: Dariger - available in the public domain.</li> </ol>
<b>12.</b>	<b>Tutor Requirements and Bonus System</b>
<p><b>A student in accordance with an individual internship plan:</b></p> <ol style="list-style-type: none"> <li>1) supervises patients in organizations providing pre-medical medical care, emergency medical care, specialized medical care (including high-tech), primary health care, palliative care and medical rehabilitation;</li> <li>2) participates in the appointment and implementation of diagnostic, therapeutic and preventive measures;</li> <li>3) conducts documentation and sanitary and educational work among the population;</li> <li>4) participates in preventive examinations, medical examinations, is present at consultations;</li> <li>5) participates in clinical rounds, clinical reviews;</li> <li>6) participates in duty at least four times a month in medical organizations (duty is not taken into account when calculating the workload of an internship student);</li> <li>7) participates in clinical and clinical-anatomical conferences;</li> <li>8) is present at pathoanatomical autopsies, participates in the research of autopsy, biopsy and surgical materials;</li> <li>9) under the supervision of a scientific supervisor, collects material and analyzes data for a scientific project.</li> </ol> <p><b>Bonus system:</b> For extraordinary achievements in the field of future professional activity (clinical, scientific, organizational, etc.), additional points up to 10% of the final assessment can be added to the student (by the decision of the department)</p>	
<b>13.</b>	<b>Discipline policy (части, выделенные зеленым, пожалуйста, не изменяйте)</b>

Discipline policy is determined by the University's Academic Policy and the University's Academic Integrity Policy. If the links do not open, then you can find the relevant documents in IS Univer.

**Rules of Professional Conduct:**

**1) Appearance:**

- ✓ office style of clothing (shorts, short skirts, open T-shirts are not allowed to attend university, jeans are not allowed in the clinic)
- ✓ Clean and ironed coat
- ✓ medical mask
- ✓ medical cap (or a neat hijab without hanging ends)
- ✓ medical gloves
- ✓ changeable shoes
- ✓ neat hairstyle, long hair should be gathered in a ponytail, or a bun, for both girls and guys. Neatly short cut nails. Bright, dark manicure is prohibited. It is permissible to cover the nails with transparent varnish.
- ✓ badge with full name (full name)

2) Mandatory presence of a phonendoscope, tonometer, centimeter tape, (you can also have a pulse oximeter)

3) Properly executed sanitary (medical) book (before the start of classes and must be updated on time)

**4) \* Possession of a vaccination passport or other document confirming a fully completed course of vaccination against COVID-19 and influenza**

**5) Mandatory observance of the rules of personal hygiene and safety**

**6) Systematic preparation for the educational process.**

**7) Accurate and timely maintenance of reporting documentation.**

8) Active participation in medical-diagnostic and public events of the departments.

**A student without a medical book and vaccination will not be allowed to see patients.**



**A student who does not meet the requirements for appearance and / or from whom a strong / pungent odor emanates, since such a smell can provoke an undesirable reaction in the patient (obstruction, etc.) - is not allowed to the patients!**

**Преподаватель в праве принять решение о допуске к занятиям студентов, которые не выполняют требования профессионального поведения, включая требования клинической базы!**

**Study discipline:**

1. Being late for classes or the morning conference is not allowed. In case of being late, the decision on admission to the lesson is made by the teacher leading the lesson. If there is a good reason, inform the teacher about the delay and the reason by message or by phone. After the third delay, the student writes an explanatory note addressed to the head of the department indicating the reasons for being late and is sent to the dean's office to obtain admission to the lesson. If you are late without a valid reason, the teacher has the right to deduct points from the current grade (1 point for each minute of delay)
2. Religious events, holidays, etc. are not a valid reason for skipping, being late and distracting the teacher and the group from work during classes.

	<ol style="list-style-type: none"> <li>3. If you are late for a good reason - do not distract the group and the teacher from the lesson and quietly go to your place.</li> <li>4. Leaving the class ahead of time, being outside the workplace during school hours is regarded as absenteeism.</li> <li>5. Additional work of students during study hours (during practical classes and shifts) is not allowed.</li> <li>6. For students who have more than 3 passes without notifying the curator and a good reason, a report is issued with a recommendation for expulsion.</li> <li>7. Missed classes are not made up.</li> <li>8. The internal regulations of the clinical bases of the department are fully applicable to students</li> <li>9. Greet the teacher and any senior by standing up (in class)</li> <li>10. Smoking (including the use of vapes, electronic cigarettes) is strictly prohibited on the territory of medical facilities (out-doors) and the university. Punishment - up to the annulment of boundary control, in case of repeated violation - the decision on admission to classes is made by the head of the department</li> <li>11. Respectful attitude towards colleagues regardless of gender, age, nationality, religion, sexual orientation.</li> <li>12. Have a laptop / laptop / tab / tablet with you for studying and passing MCQ tests for TBL, boundary and final controls.</li> <li>13. Taking MCQ tests on phones and smartphones is strictly prohibited..</li> </ol> <p>The behavior of the student at the exams is regulated by the "Rules for the final control", "Instructions for the final control of the autumn/spring semester of the current academic year" (the current documents are uploaded to the Univer IS and are updated before the start of the session); "Regulations on checking text documents of students for the presence of borrowings."</p> <p>Decision of the Department of Clinical Disciplines (protocol No. 2 of September 5, 2023):  <b>In addition to the requirements for the academic discipline:</b>  If you miss a class without a good reason, the teacher has the right to deduct points from the current control -</p> <ol style="list-style-type: none"> <li>1) 10 points for each missed lesson for 4-5 year disciplines</li> <li>2) 5 points for each missed lesson for 2-3 year disciplines</li> </ol>
14	<ol style="list-style-type: none"> <li><b>1. Constantly preparing for classes:</b>  For example, backs up statements with relevant references, makes brief summaries  Demonstrates effective teaching skills, assists in teaching others</li> <li><b>2. Take responsibility for your learning:</b>  For example, manages their learning plan, actively tries to improve, critically evaluates information resources</li> <li><b>3. Actively participate in group learning:</b>  For example, actively participates in discussions, willingly takes tasks</li> <li><b>4. Demonstrate effective group skills</b>  For example, takes the initiative, shows respect and correctness towards others, helps to resolve misunderstandings and conflicts.</li> <li><b>5. Skillful communication skills with peers:</b>  For example, he listens actively, is receptive to nonverbal and emotional signals  Respectful attitude</li> <li><b>6. Highly developed professional skills:</b></li> </ol>

	<p>Eager to complete tasks, seek opportunities for more learning, confident and skilled  Compliance with ethics and deontology in relation to patients and medical staff  Observance of subordination.  <b>7. High introspection:</b>  For example, recognizes the limitations of his knowledge or abilities, without becoming defensive or reproaching others  <b>8. Highly developed critical thinking:</b>  For example, accordingly demonstrates skills in performing key tasks, such as generating hypotheses, applying knowledge to cases from practice, critically evaluating information, making conclusions aloud, explaining the process of reflection  <b>9. Fully complies with the rules of academic behavior with understanding, offers improvements in order to increase efficiency.</b>  Observes the ethics of communication – both oral and written (in chats and appeals)  <b>10. Fully follows the rules with full understanding of them, encourages other members of the group to adhere to the rules</b>  Strictly adheres to the principles of medical ethics and PRIMUM NON NOCER</p>	
15.	<b>Distance/Online Learning – Prohibited in Clinical Discipline</b> (части, выделенные зеленым, пожалуйста, не изменяйте)	
<p>1. According to the order of the Ministry of Education and Science of the Republic of Kazakhstan No. 17513 dated October 9, 2018 "On approval of the List of areas of training with higher and postgraduate education, training in which in the form of external studies and online education is not allowed". According to the above regulatory document, specialties with the discipline code of health care: bachelor's degree (6B101), master's degree (7M101), residency (7R101), doctoral studies, (8D101) - training in the form of external study and online education - is not allowed.</p> <p>Thus, students are prohibited from distance learning in any form. It is only allowed to work out a lesson in a discipline due to the absence of a student for reasons beyond his control and the presence of a timely confirming document (example: a health problem and presenting a confirming document - a medical certificate, a signal sheet of the PHC, an extract from a consultative appointment with a medical specialist - a doctor)</p>		
16.	<b>Approval and review</b>	
Department head		Sadykova Sh.S.
Teaching Quality Committee and teaching faculty		Kurmanova G.M.

### Topic plan and content of classes

№	Topic	Content	Literature	Conduct form
2	3	4	5	
1	Normal hematology.	<p>Features of sampling material for laboratory testing. Clinical and laboratory syndromes in blood diseases. The hemogram is normal and with various pathologies of internal organs</p> <p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- selection of material for laboratory testing</li> <li>- conducts targeted questioning and physical examination to identify symptoms and syndromes of the pathology of the hematopoietic system based on the application of knowledge of the pathogenesis</li> <li>- can interpret data from laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies with blood norm;</li> <li>- determine the blood type</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul>	<ol style="list-style-type: none"> <li>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</li> <li>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа,2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</li> <li>3. «Қан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеграцияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М.: Литтерра, 2014. — 288 б</li> <li>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</li> <li>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</li> <li>6. Основы клинической гематологии: учебное пособие / С.А. Волкова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</li> <li>7. Hoffbrand’s essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</li> <li>8.Wintrobe’s Clinical Hematology (Greer) 14 ed (2018)</li> <li>9. Dacie and Lewis Practical Haematology 12ed- 2017</li> <li>10. Oxford Handbook of Clinical Haematology 4th Edition. Chapter</li> </ol>	<ol style="list-style-type: none"> <li>1. Using active learning methods: working in small groups</li> <li>2. Working with laboratory examination data</li> <li>3. Determination of blood type</li> </ol>

			<p>11. Anderson's Atlas of Hematology, 3rd Edition-2021</p> <p>12. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</p> <p>13.Essentials_of_Internal_Medicine_Talley_3_ed_2015/Chapter 14</p>	
2	<p>Anemic syndrome . Sideropenic syndrome (especially in children).</p>	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conducts targeted questioning and physical examination to identify symptoms and syndromes of anemia and sideropenia based on the application of knowledge of pathogenesis</li> <li>- identify symptoms and syndromes of anemia: iron deficiency anemia, iron-distributive anemia, iron-saturated anemia, congenital anemia (Thalassemia)</li> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in anemia and sideropenic syndrome;</li> <li>-to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between anemia syndromes</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for the treatment of anemia and sideropenic syndrome (iron preparations, transfusion, glucocorticoid drugs)</li> <li>- possess basic skills in maintaining current accounting and reporting medical documentation, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа,2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p> <p>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеірацияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М. : Литтерра, 2014. — 288 б</p> <p>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</p> <p>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</p> <p>6. Основы клинической гематологии: учебное пособие / С.А. Вол кова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</p> <p>7. Hoffbrand’s essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</p> <p>8.Wintrobe’s Clinical Hematology (Greer) 14 ed (2018)</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>

		<ul style="list-style-type: none"> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul>	<p>9. Dacie and Lewis Practical Haematology 12ed-2017</p> <p>10. Oxford Handbook of Clinical Haematology 4th Edition. Chapter</p> <p>11. Anderson's Atlas of Hematology, 3rd Edition-2021</p> <p>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</p> <p>13. Essentials of Internal Medicine Talley 3 ed 2015/Chapter 14</p> <p>12. <a href="https://geekymedics.com/fbc-interpretation/">https://geekymedics.com/fbc-interpretation/</a></p>	
3	Cytopenic syndrome	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conducts targeted questioning and physical examination to identify symptoms and syndromes of cytopenia based on the application of knowledge of pathogenesis</li> <li>- identify symptoms and syndromes of cytopenia: hypo and aplastic anemia, B-12 – deficiency anemia</li> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in cytopenic syndrome;</li> <li>-to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between cytopenia syndromes (hypo and aplastic anemia, B-12 deficiency anemia, cytopenia in leukemia)</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for the treatment of cytopenic syndrome</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа, 2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p> <p>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеірацияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М. : Литтерра, 2014. — 288 б</p> <p>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</p> <p>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</p> <p>6. Основы клинической гематологии: учебное пособие / С.А. Вол кова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>



		<ul style="list-style-type: none"> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Agranulocytosis. Form of execution – original report, PowerPoint presentation/video presentation (article review, case, video, simulation OR research thesis, report, article)</p>	<p>7. Hoffbrand’s essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</p> <p>8. Wintrobe’s Clinical Hematology (Greer) 14 ed (2018)</p> <p>9. Dacie and Lewis Practical Haematology 12ed-2017</p> <p>10. Oxford Handbook of Clinical Hematology 4th Edition. Chapter</p> <p>11. Anderson's Atlas of Hematology, 3rd Edition-2021</p> <p>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</p> <p>13. Essentials of Internal Medicine Talley 3_e d_2015/Chapter 14</p> <p>12. <a href="https://geekymedics.com/fbc-interpretation/">https://geekymedics.com/fbc-interpretation/</a></p>	
4	Hemolysis syndrome	<ul style="list-style-type: none"> <li>- conducts targeted questioning and physical examination to identify symptoms and syndromes of hemolysis based on the application of knowledge of pathogenesis</li> <li>- identify the symptoms and syndromes of hemolysis: hereditary (membranopathy, hemoglobinopathy, fermentopathy) and acquired (immune, non-immune) hemolytic anemia</li> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in hemolysis;</li> <li>- to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between hemolysis syndromes (hereditary (membranopathy, hemoglobinopathy, fermentopathy) and acquired (immune, non-immune) hemolytic anemia)</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа, 2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p> <p>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеграцияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М.: Литтерра, 2014. — 288 б</p> <p>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</p> <p>5. Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>

		<ul style="list-style-type: none"> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for the treatment of hemolytic syndrome</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Hemolytic disease of newborns. Form of execution – original report, PowerPoint presentation/video presentation (article review, case, video, simulation OR research thesis, report, article)</p>	<p>англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</p> <p>6. Основы клинической гематологии: учебное пособие / С.А. Волкова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</p> <p>7. Hoffbrand's essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</p> <p>8. Wintrobe's Clinical Hematology (Greer) 14 ed (2018)</p> <p>9. Dacie and Lewis Practical Haematology 12ed- 2017</p> <p>10. Oxford Handbook of Clinical Hematology 4th Edition. Chapter</p> <p>11. Anderson's Atlas of Hematology, 3rd Edition- 2021</p> <p>12. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</p> <p>13. Essentials of Internal Medicine Talley 3 ed 2015/Chapter 14</p> <p>12. <a href="https://geekymedics.com/fbc-interpretation/">https://geekymedics.com/fbc-interpretation/</a></p>	
5	Transfusion of blood components	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conducts targeted questioning and physical examination for indications and contraindications for transfusion</li> <li>- distinguishes between types of bleeding and can perform final hemostasis.</li> <li>- understands pathophysiological changes in the body during blood loss and the work of compensatory mechanisms, considering age and gender characteristics.</li> <li>- applies knowledge of indications, conditions, rules, means, and methods of infusion-transfusion therapy.</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа, 2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p> <p>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеграцияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М.: Литтерра, 2014. — 288 б</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>

		<ul style="list-style-type: none"> <li>- conducts infusion therapy to replenish the BCC based on an assessment of the volume of blood loss.</li> <li>- have basic skills in maintaining current accounting and reporting medical documentation, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for an individual and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and adherence to the principles of confidentiality;</li> <li>- demonstrate the ability and need for continuous professional training and improvement of their knowledge and skills in professional activities;</li> <li>- demonstrate basic skills in scientific research.</li> </ul>	<p>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</p> <p>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</p> <p>6. Основы клинической гематологии: учебное пособие / С.А. Вол кова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</p> <p>7. Hoffbrand’s essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</p> <p>8.Wintrobe’s Clinical Hematology (Greer) 14 ed (2018)</p> <p>9. Dacie and Lewis Practical Haematology 12ed-2017</p> <p>10. Oxford Handbook of Clinical Haematology 4th Edition. Chapter</p> <p>11. Anderson's Atlas of Hematology, 3rd Edition-2021</p> <p>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</p> <p>13.Essentials_of_Internal_Medicine_Talley_3_e d_2015/Chapter 14</p> <p>12. <a href="https://geekymedics.com/fbc-interpretation/">https://geekymedics.com/fbc-interpretation/</a></p>	
6	Plethoric syndrome	<ul style="list-style-type: none"> <li>- conduct targeted questioning and physical examination of the patient, taking into account age-related characteristics with blood pathology, to identify symptoms and syndromes based on the application of knowledge of pathogenesis</li> <li>- identify the symptoms and syndromes of plethora: erythema, polycythemia</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа,2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>

	<ul style="list-style-type: none"> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in plethoric syndrome;</li> <li>-to confirm the alleged diagnosis of erythropoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between fetal syndromes (erythema, polycythemia in other diseases)</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for the treatment of plethoric syndrome</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Algorithm of diagnosis in erythema. Form of execution – original report, PowerPoint presentation/video presentation (article review, case, video, simulation OR research thesis, report, article)</p>	<ol style="list-style-type: none"> <li>3. «Қан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеграцияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М. : Литтерра, 2014. — 288 б</li> <li>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</li> <li>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</li> <li>6. Основы клинической гематологии: учебное пособие / С.А. Волкова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</li> <li>7. Hoffbrand’s essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</li> <li>8.Wintrobe’s Clinical Hematology (Greer) 14 ed (2018)</li> <li>9. Dacie and Lewis Practical Haematology 12ed-2017</li> <li>10. Oxford Handbook of Clinical Haematology 4th Edition. Chapter</li> <li>11. Anderson's Atlas of Hematology, 3rd Edition-2021</li> <li>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</li> <li>13.Essentials_of_Internal_Medicine_Talley_3_ed_2015/Chapter 14</li> </ol> <p>12. <a href="https://geekymedics.com/fbc-interpretation/">https://geekymedics.com/fbc-interpretation/</a></p>	
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7	Myeloproliferation syndrome	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conduct targeted questioning and physical examination of the patient, taking into account age-related characteristics with blood pathology, to identify symptoms and syndromes based on the application of knowledge of etiology and pathogenesis</li> <li>- identify the symptoms and syndromes of acute and chronic myeloid leukemia</li> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in myeloproliferative syndrome;</li> <li>-to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between myelo and lymphoproliferative syndromes (acute and chronic myelo/lymphocytic leukemia)</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for the treatment of myelo-lymphoproliferative syndrome</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Myeloma. The form of execution is an original report, a PowerPoint presentation/video presentation. (article review, case study, video, simulation OR research thesis, report, article)</p>	<ol style="list-style-type: none"> <li>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</li> <li>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа,2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</li> <li>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеірацияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М.: Литтерра, 2014. — 288 б</li> <li>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</li> <li>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</li> <li>6. Основы клинической гематологии: учебное пособие / С.А. Вол кова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</li> <li>7. Hoffbrand’s essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</li> <li>8.Wintrobe’s Clinical Hematology (Greer) 14 ed (2018)</li> <li>9. Dacie and Lewis Practical Haematology 12ed- 2017</li> <li>10. Oxford Handbook of Clinical Heamatology 4th Edition. Chapter</li> <li>11. Anderson's Atlas of Hematology, 3rd Edition- 2021</li> <li>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</li> </ol>	<ol style="list-style-type: none"> <li>1. TBL</li> <li>2. Working with laboratory examination data</li> <li>3. Determination of blood type</li> </ol>
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8	Lymphoproliferation syndrome	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conduct targeted questioning and physical examination of the patient, taking into account age-related characteristics with blood pathology, to identify symptoms and syndromes based on the application of knowledge of etiology and pathogenesis</li> <li>- identify symptoms and syndromes of acute and chronic lymphoblastic leukemia</li> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in lymphoproliferative syndrome;</li> <li>- to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between myelo- and lymphoproliferative syndromes (acute and chronic leukemia)</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for the treatment of myelo- and lymphoproliferative syndrome</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа, 2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p> <p>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Інтеірацияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М.: Литтерра, 2014. — 288 б</p> <p>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</p> <p>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</p> <p>6. Основы клинической гематологии: учебное пособие / С.А. Волкова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</p> <p>7. Hoffbrand's essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>

		<ul style="list-style-type: none"> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Algorithm for diagnosis of leukocytosis. The form of execution is an original report, a PowerPoint presentation/video presentation. (article review, case study, video, simulation OR research thesis, report, article)</p>	<p>8. Wintrobe's Clinical Hematology (Greer) 14 ed (2018)</p> <p>9. Dacie and Lewis Practical Haematology 12ed-2017</p> <p>10. Oxford Handbook of Clinical Hematology 4th Edition. Chapter</p> <p>11. Anderson's Atlas of Hematology, 3rd Edition-2021</p> <p>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</p> <p>13. Essentials of Internal Medicine Talley 3_e d_2015/Chapter 14</p> <p>14. Pathogenesis and Treatment of Leukemia/Harinder Gill 1-ed (2023)</p> <p>15. <a href="https://geekymedics.com/fbc-interpretation/">https://geekymedics.com/fbc-interpretation/</a></p> <p>16. <a href="https://geekymedics.com/acute-myeloid-leukaemia/">https://geekymedics.com/acute-myeloid-leukaemia/</a></p>	
9	Hemorrhagic syndrome	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conduct targeted questioning and physical examination of the patient, taking into account age-related characteristics with blood pathology, to identify symptoms and syndromes based on the application of knowledge of etiology and pathogenesis</li> <li>- to identify the symptoms and syndromes of hemorrhage (disorders of plasma hemostasis: deficiency of various factors, hemophilia. DIC syndrome.</li> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in hemorrhagic syndrome;</li> <li>- to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа, 2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p> <p>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Інтеірацияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М.: Литтерра, 2014. — 288 б</p> <p>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>

		<ul style="list-style-type: none"> <li>- can make a differential diagnosis between hemorrhagic syndromes: disorders of deficiency of various factors, hemophilia.</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for treating hemorrhagic syndrome.</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Thrombophilia. The form of execution is an original report, a PowerPoint presentation/video presentation. (article review, case study, video, simulation OR research thesis, report, article)</p>	<p>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</p> <p>6. Основы клинической гематологии: учебное пособие / С.А. Волкова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</p> <p>7. Hoffbrand's essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</p> <p>8.Wintrobe's Clinical Hematology (Greer) 14 ed (2018)</p> <p>9. Dacie and Lewis Practical Haematology 12ed- 2017</p> <p>10. Oxford Handbook of Clinical Haematology 4th Edition. Chapter</p> <p>11. Anderson's Atlas of Hematology, 3rd Edition- 2021</p> <p>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</p> <p>13.Essentials_of_Internal_Medicine_Talley_3_ed_2015/Chapter 14</p>	
10	Disorders of vascular hemostasis	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conduct targeted questioning and physical examination of the patient, taking into account age-related characteristics with blood pathology, to identify symptoms and syndromes based on the application of knowledge of etiology and pathogenesis</li> <li>- identify the symptoms and syndromes of hemorrhage and thrombocytopenia: autoimmune thrombocytopenic purpura, Werlhoff's disease, hereditary thrombocytopathies, secondary thrombocytopenia (symptomatic). Vasopathy (hemorrhagic vasculitis, Randu-Osler, Louis-Barre, Kazabach-Merritt diseases, etc.), Willebrand disease</li> </ul>	<p>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</p> <p>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа,2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</p> <p>3. «Кан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеграцияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М.: Литтерра, 2014. — 288 б</p>	<p>1. TBL</p> <p>2. Working with laboratory examination data</p> <p>3. Determination of blood type</p>



		<ul style="list-style-type: none"> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, coagulogram, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies in hemorrhagic syndrome;</li> <li>-to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between hemorrhagic and thrombocytopenia syndromes (autoimmune thrombocytopenic purpura, Werlhoff's disease, hereditary tromocytopathies, and secondary thrombocytopenia (symptomatic). Vasopathies (hemorrhagic vasculitis, Randu-Osler, Louis-Barre, Kazabach-Merritt diseases, etc.), Willebrand disease)</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for the treatment of hemorrhagic syndrome</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Thrombophilia. The form of execution is an original report, a PowerPoint presentation/video presentation. (article review, case study, video, simulation OR research thesis, report, article)</p>	<ol style="list-style-type: none"> <li>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</li> <li>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</li> <li>6. Основы клинической гематологии: учебное пособие / С.А. Вол кова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</li> <li>7. Hoffbrand's essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</li> <li>8.Wintrobe's Clinical Hematology (Greer) 14 ed (2018)</li> <li>9. Dacie and Lewis Practical Haematology 12ed- 2017</li> <li>10. Oxford Handbook of Clinical Heamatology 4th Edition. Chapter</li> <li>11. Anderson's Atlas of Hematology, 3rd Edition- 2021</li> <li>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</li> <li>13.Essentials_of_Internal_Medicine_Talley_3_e d_2015/Chapter 14</li> </ol>	
11	DIC (disseminated intravascular	<p>Learning outcomes:</p> <ul style="list-style-type: none"> <li>- conduct targeted questioning and physical examination of the patient, taking into account age-related characteristics with blood pathology, to identify symptoms and syndromes based on the application of knowledge of etiology and pathogenesis</li> </ul>	<ol style="list-style-type: none"> <li>1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, глава-6.</li> </ol>	<ol style="list-style-type: none"> <li>1. TBL</li> <li>2. Working with the patient</li> <li>3. Training in the simulation center</li> </ol>

<p>coagulation, consumption coagulopathy, thrombotic hemorrhagic syndrome</p>	<ul style="list-style-type: none"> <li>- identify the symptoms and syndromes of hemorrhage (disorders of plasma hemostasis: DIC syndrome.</li> <li>- interpret the data of laboratory and instrumental (Blood tests, urine tests, biochemical blood tests, blood smears, sternal puncture, myelogram and ECG, ultrasound of the abdominal cavity) studies with internal combustion engine;</li> <li>-to confirm the alleged diagnosis of hematopoiesis lesion using laboratory and instrumental methods</li> <li>- can make a differential diagnosis between hemorrhagic syndromes: disorders of deficiency of various factors, hemophilia.</li> <li>- prescribe and use the classification of drugs, mechanism of action, pharmacokinetics, side effects, indications, and contraindications for treating DIC. Antithrombotic therapy for DIC (anticoagulants of direct and indirect action, thrombolytics).</li> <li>- possess basic skills in maintaining current accounting and reporting medical records, including in information systems;</li> <li>- demonstrate communication skills, teamwork skills, organization, and management of the diagnostic and treatment process;</li> <li>- apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;</li> <li>- demonstrate commitment to professional values such as altruism, compassion, empathy, responsibility, honesty, and respect for the principles of confidentiality;</li> <li>- demonstrate the abilities and needs for continuous professional training and improvement of their knowledge and skills of professional activity;</li> <li>- demonstrate the initial skills of research work.</li> </ul> <p>ISW: Emergency care. The form of execution is an original report, a PowerPoint presentation/video presentation. (article review, case study, video, simulation OR research thesis, report, article)</p>	<ol style="list-style-type: none"> <li>2. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа,2015, Тарау-6: ил. Н.А. Мухин, В.С. Моисеев;</li> <li>3. «Қан түзуші жүйесі» модулі : модуль «Кроветворная система» : Интеграцияланған оқулық : казак және орыс тілдерінде / С. К. Жаугашева, М. Т. Алиякпаров, С. Б. Жәутікова және т.б. — М. : Литтерра, 2014. — 288 б</li> <li>4. Кузник Б.И. Клиническая гематология детского возраста.: учеб.пособие/М.: Вузоская книга , 2010 – 496 с.</li> <li>5.Андерсон, Ш. Атлас гематологии / Ш. Андерсон / Под ред. В.П. Сапрыкина. Пер. с англ. И.А. Поповой, В.П. Сапрыкина. — М.: Логосфера, 2007. — 608 с</li> <li>6. Основы клинической гематологии: учебное пособие / С.А. Волкова, Н.Н. Боровков. — Н. Новгород: Издательство Нижегородской гос. медицинской академии, 2013. — 400 с</li> <li>7. Hoffbrand’s essential haematology / A. Victor Hoffbrand, Paul A. H. Moss. — Seventh edition.- 2016</li> <li>8.Wintrobe’s Clinical Hematology (Greer) 14 ed (2018)</li> <li>9. Dacie and Lewis Practical Haematology 12ed-2017</li> <li>10. Oxford Handbook of Clinical Hematology 4th Edition. Chapter</li> <li>11. Anderson's Atlas of Hematology, 3rd Edition-2021</li> <li>12. 10. Atlas of peripheral blood : the primary diagnostic tool / [edited by] Irma Pereira, Tracy I. George, Daniel A. Arber.</li> <li>13.Essentials_of_Internal_Medicine_Talley_3_ed_2015/Chapter 14</li> </ol>	
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**RUBRICATOR FOR ASSESSING LEARNING OUTCOMES  
with summative assessment**

**Rating calculation formula**

**For the 4th course as a whole- overall admission rating (OAR)**

Curation, clinical skills	20%
SIW (case, video, simulation OR research thesis, report, article) – assessment of a creative task	10%
Border control	70%
<b>Total for BC-1</b>	<b>100%</b>
Medical history	20%
SIW (case, video, simulation OR research thesis, report, article) – assessment of a creative task	10%
Border control 2	70%
<b>Total for BC -2</b>	<b>100%</b>

**Final score:** OAR 60% + exam 40%

**Exam (2 stages)** – MSQ testing (40%) + OSKE (60%)

**Team based learning – TBL**

	%
<b>Individual -- (IRAT)</b>	<b>30</b>
<b>Group -- (GRAT)</b>	<b>20</b>
<b>Appeal</b>	<b>10</b>
<b>Case rating -</b>	<b>30</b>
<b>Companion rating (bonus)</b>	<b>10</b>
	<b>100%</b>

**Case-based learning CBL**

		%
1	<b>Interpreting survey data</b>	10
2	<b>Interpretation of physical examination findings</b>	10
3	<b>Preliminary diagnosis, justification, PD, examination plan</b>	10
4	<b>Interpretation of lab-instrumental examination data</b>	10

5	<b>Clinical diagnosis, problem sheet</b>	10
6	<b>Management and treatment plan</b>	10
7	<b>The validity of the choice of drugs and treatment regimens</b>	10
8	<b>Evaluation of effectiveness, prognosis, prevention</b>	10
9	<b>Special problems and questions on the case</b>	10
10	<b>Companion rating (bonus)</b>	10
		<b>100%</b>

**Point-rating assessment of practical skills at the bedside (maximum 100 points)**

№	Criteria (evaluated according to the point system)	10	8	6	4	2
		<i>Excellent</i>	<i>Good</i>	<i>Satisfactory</i>	<i>Need correction</i>	<i>Bad</i>
<b>INTERVIEWING THE PATIENT</b>						
1	Communication skills in interviewing a patient	Introduced himself to the patient. He asked how to address the patient. He spoke in a friendly tone, his voice was sonorous and clear. Polite wording of the questions. He showed empathy for the patient - the doctor's posture, approving of "fading". I asked open-ended questions.	Introduced himself to the patient. He asked how to address the patient. He spoke in a friendly tone, his voice was sonorous and clear. Polite wording of the questions. He showed empathy for the patient - the doctor's posture, approving of "fading". I asked open-ended questions.	Introduced himself to the patient. He asked how to address the patient. He spoke in a friendly tone, his voice was sonorous and clear. Polite wording of the questions. Few open-ended questions have been asked	He did not fully introduce himself to the patient, did not ask the patient's name, the student's speech was slurred, and his voice was not legible. Open-ended questions are not asked, the patient answers in monosyllables. The student did not pay attention to the convenience of the patient, did not show empathy.	Communication with the patient is negative. The basic requirements for communicating with the patient are not met, there is no manifestation of empathy for the patient.
	Collecting complaints	Identified the main and secondary complaints of the	Identified the main and secondary complaints of the	Identified the main complaints of the patient.	The student cannot distinguish the main	He did NOT reveal any details of the

		patient. Revealed important details of the disease (for example, is there nausea, vomiting, abdominal pain? What kind of character?). He asked questions about the differential diagnosis.	patient. Have you identified important details of the disease (for example, nausea, vomiting, abdominal pain? What kind of character?).	Revealed important details of the disease.	complaints from the secondary ones. Did not reveal important details of the disease. He asks chaotic questions.	disease. The collection of complaints is limited only by the subjective words of the patient himself.
	Collecting anamnesis of the disease	Revealed the chronology of the disease, important details of the disease (for example, when do abdominal pains appear?). I asked about the medications taken for this disease. He asked questions about the differential diagnosis.	Revealed the chronology of the disease, important details of the disease (for example, when do abdominal pains appear?). A student asked about the medications taken for this disease.	Revealed the chronology of the disease development. A student asked about the medications taken for this disease.	The student cannot build a chronology of the development of the disease. He asks chaotic questions.	The stage was skipped by the student. There is only information given by the patient himself.
	Anamnesis of life	The student revealed an allergic anamnesis, chronic diseases, operations, blood transfusions, medication taken on a regular basis, family history, social status of the patient, occupational hazards, and epidemiological history.	Revealed allergic anamnesis, chronic diseases, operations, medications taken regularly, family history, social status of the patient, occupational hazards, epidamnesis	Revealed an allergic anamnesis, chronic diseases, family history.	Revealed an allergic anamnesis, a family history.	The stage was skipped by the student. There is only information given by the patient himself.
2	The quality of the patient survey	The patient's survey was conducted sequentially in order, but depending on the situation and the patient's characteristics, the student changed the order of the	The patient is interviewed sequentially in order. In the end, he summarizes - sums up all the questions and receives feedback from the patient (for example, let's	The survey sequence is broken, but the quality of the information collected allows us to suggest a probable diagnosis.	The survey sequence is broken. The student repeats the same questions. The information collected is of poor quality and does	The survey is not conducted consistently, the student asks random questions that are not related to the

		survey. In the end, he sums up – summarizes all the questions, and receives feedback from the patient (for example, let's summarize - you got sick a week ago when nausea with repeated vomiting first appeared, then diarrhea appeared, is that right?). High-quality detailed information has been collected, leading to a probable diagnosis. Uses a problem sheet – can identify major and minor problems.	summarize - you got sick a week ago when nausea with repeated vomiting first appeared, then diarrhea appeared, is that correct?). High-quality detailed information is collected, leading to a probable diagnosis. Uses a problem sheet - knows how to highlight the main and secondary problems.	Does not use a problem sheet - does not know how to identify major and minor problems.	not allow for a probable diagnosis.  Does not use a problem sheet – does not know how to identify major and minor problems.	patient's case or does not ask questions at all.  Does not use a problem sheet - does not know how to identify major and minor problems.
3	Time management of patient interview. Control over the situation.	Minimal time in the group was spent on interviewing the patient. The student is self-confident, fully controls the situation, and manages it. The patient is satisfied.	The survey was conducted fairly quickly. The student is self-confident and in control of the situation. The patient is satisfied.	The time of questioning the patient is prolonged but does not cause discomfort to the patient. The student does not lose his composure. There is no negativity on the part of the patient.	Long survey, the student is wasting his time. The patient expresses discomfort with the drawn-out survey. The student is not confident and is at a loss when communicating with the patient.	The survey is completed without revealing any important information. The survey is taking too long, and the atmosphere of communication is negative. Conflict with the patient is possible.
<b>PHYSICAL EXAMINATION OF THE PATIENT</b>						
		<b>10</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>2</b>
		<i>Excellent</i>	<i>Good</i>	<i>Satisfactory</i>	<i>Need correction</i>	<i>Bad</i>
4	Communication skills during physical	Asked the patient (or relatives, parents, or guardians) for consent to conduct a physical	Asked the patient (or relatives, parents, or guardians) for consent to conduct a physical examination. Explained to the	Asked the patient (or relatives, parents, or guardians) for consent to conduct a physical	Asked the patient (or relatives, parents, or guardians) for consent	Contact with the patient's body without prior consent.

	examination of a patient	examination. Explained to the patient what and how he will check (for example, I will listen to your lungs with a stethoscope, check your abdomen with my hand)	patient what and how he will check (for example, I will listen to your lungs with a stethoscope, check your abdomen with my hand)	examination. Explained to the patient what and how he will check (for example, I will listen to your lungs with a stethoscope, check your abdomen with my hand)	to conduct a physical examination.	
5	Assessment of the patient's level of consciousness using the Glasgow scale.	Calculated the points on the scale correctly. Correctly uses medical terminology to indicate the level of consciousness.	Calculate the points on the scale correctly. Correctly uses medical terminology to indicate the level of consciousness.	The error in the assessment on the scale is no more than 2 points. Knows the terminology for indicating the level of consciousness.	The error in the assessment on the scale is more than 3 points. Confused in medical terminology.	Does not know the Glasgow scale criteria. Does not know how to use it. Does not know how to differentiate the level of consciousness.
	Assessment of the patient's vital signs - heart rate, respiratory rate, blood pressure, body temperature, body mass index.	Measured vital signs technically correctly. Correctly uses medical terminology when assessing vital signs (e.g., tachypnea, tachycardia, hypoxia, etc.)	Measured vital signs technically correctly. Correctly uses medical terminology when assessing vital signs (e.g., tachypnea, tachycardia, hypoxia, etc.)	Minor errors in the technique of measuring vital signs. The results of the measurements are not distorted. The student can correct the errors in the use of medical terminology himself.	Gross errors in the technique of measuring vital signs, distortion of results. Cannot independently correct errors in medical terminology.	Does not have the technique for measuring vital signs. Does not know the standard data for assessing blood pressure, pulse, respiratory rate, saturation, and body temperature.
6	Technique for conducting a physical examination of a patient.	Conducted a physical examination of the patient by systems, in the established order, the technique of palpation, auscultation, and percussion is correct. Explain to the patient what changes were detected and what the norm should be.	The physical examination of the patient was carried out systematically in order, the technique of palpation, auscultation and percussion is correct. Explain to the patient what changes were detected and what the norm should be. All important physical data (both pathological and normal)	The physical examination of the patient was conducted in violation of the systemic order, but without causing inconvenience to the patient. The technique of palpation, auscultation, and percussion is satisfactory but requires	Physical examination was not performed systematically, the patient stood up, lay down, changed position several times, and experienced discomfort. Only individual systems were covered, The technique of performing palpation,	Gross violations during physical examination - does not know the procedure and technique for conducting a physical examination of a patient.

		<p>All important physical data (both pathological and normal) for making a probable diagnosis were identified.</p> <p>The student knows how to change the order of examination depending on the symptoms identified. Details the symptoms identified (for example, have you noticed swelling in your legs? How long have you noticed this? Does the swelling increase in the evening or in the morning?)</p> <p>At the end, summarizes - the correspondence of the changes identified during the physical examination to the complaints and anamnesis of the patient.</p>	<p>were identified to establish a probable diagnosis. Details the symptoms identified (for example, have you noticed swelling in your legs? How long have you noticed this? Does the swelling increase in the evening or the morning?)</p>	<p>minor corrections from the teacher. The main violations were identified, sufficient for making a probable diagnosis.</p>	<p>percussion, auscultation - required significant correction by the teacher. Confused in determining normal and pathological changes. The main disorders were NOT identified. Insufficient data to make a probable diagnosis.</p>	<p>Does not know the norm and pathology of physical data.</p> <p>Cannot identify any violations.</p>
7	<p>Making a preliminary syndromic diagnosis</p> <p>Laboratory and visual examination plan (BT, UT, biochemical test, pathological fluids,</p>	<p>The most complete justification and formulation of a preliminary diagnosis with the justification of complaints and physical examination data, conducted differential diagnostics for the main syndromes based on complaints data, disease development and detected</p>	<p>The most complete justification and formulation of the preliminary diagnosis with the justification of the complaints and physical examination data. Correct and justified in terms of the underlying pathology. Conducted differential diagnostics for the main syndromes.</p>	<p>Justification of the preliminary diagnosis based on complaints and physical examination in terms of the underlying pathology. Determined the main examination for diagnosis.</p>	<p>A template or intuitive formulation of a preliminary diagnosis cannot justify (i.e., link complaints, chronology of symptom development, and physical data). The prescribed examination does not allow to confirm the diagnosis.</p>	<p>Formulation of diagnosis at random does not understand and does not see the connection between the complaints and the patient's medical history. The prescribed examination does not allow to confirm the diagnosis.</p>



	visualization methods)	physical abnormalities. Understand the problem as a whole, link it to the patient's characteristics. Correctly prescribed laboratory and instrumental examination, taking into account the differential diagnosis (that is, named what he prescribes, for what, and expected changes). Explained to the patient important points in preparation for the examination (for example, if the glucose test is on an empty stomach, then do not drink, do not eat, do not brush your teeth, etc.)	Correctly named the necessary laboratory and instrumental examination for diagnosis, named the expected changes. Explained to the patient important points in preparation for the examination.			The prescribed examination can harm the patient's health.
8	Interpretation of laboratory and instrumental examination results (BT, UT, biochemical test, biopsy, visualization methods FGDS, X-ray, CT, MRI, Elastometry, PET, ultrasound, etc.)	Accurate and complete interpretation using medical terminology, understands the relationship/or discrepancy of the detected deviations with the preliminary diagnosis	Accurate and complete interpretation using medical terminology	Identifying major deviations in tests, correct use of medical terminology	Incomplete or not entirely correct interpretation, lack of knowledge of normative data, errors in the use of medical terminology	Does not use medical terminology, does not know regulatory data
9	Formulation of the final syndromic	The student formulates the underlying disease. When formulating the underlying	The student formulates the underlying disease. When formulating the underlying	The student formulates the main disease. The clinical classification is	The student can formulate only the main disease. Cannot fully	The student cannot formulate a diagnosis. Or cannot

	diagnosis, with justification based on the examination results	disease, use the clinical classification of the disease. Assesses the severity of the disease. Names the complications of the underlying disease. The student substantiates his/her opinion on objective data (anamnesis, examination results). For example: Community-acquired lobar pneumonia, is typical. Moderate course. (or severe course, complication - pleural empyema)	disease, use the clinical classification of the disease. Assesses the severity of the disease. Names the complications of the underlying disease. The student substantiates his/her opinion on objective data (anamnesis, examination results). For example: Community-acquired lobar pneumonia, is typical. Moderate course. (or severe course, complication - pleural empyema)	not complete. The student substantiates his opinion on objective data (anamnesis, examination results). For example: Community-acquired pneumonia, is typical.	explain the rationale for the diagnosis. For example: pneumonia (or such answers as lung tissue compaction syndrome, obstructive syndrome, acute respiratory failure syndrome, etc. are perceived as equivalent).	explain the rationale for the diagnosis (name the diagnosis at random following the topic of the lesson)
10	Treatment principles	Knows the groups of main, i.e. the main drugs for the treatment of a given disease, their mechanism of action, and the classification of these drugs. Makes a reasonable choice of drugs: taking into account the indications and contraindications for a given patient. Informs the patient about the most important side effects of the prescribed drugs. Informs the patient about the features of taking the drug (for example, after meals, with plenty of water, etc.)	Knows the groups of main, i.e. the main drugs for the treatment of a given disease, their mechanism of action, and the classification of these drugs. Determines the indications and contraindications for a given patient. Informs the patient about the most important side effects of the prescribed drugs. Informs the patient about the features of taking the drug (for example, after meals, with plenty of water, etc.) Determined the criteria for the effectiveness of treatment.	Knows only the basic principles of treatment. Names only a group of basic drugs for the treatment of a given disease (for example, broad-spectrum antibiotics).  Knows the mechanism of action of basic drugs.	Knows only the basic principles of treatment. Can only name the class of drugs (for example, antibiotics or bronchodilators). Does not know the classification of drugs. Explains the mechanism of action in general terms at the layman's level (for example, antibiotics kill bacteria, etc.)	

		Determined the criteria for the effectiveness of treatment, and the expected time frame for improvement of the patient's condition. Named the terms and methods of monitoring treatment, subjective and objective data, laboratory and visualized data on monitoring treatment.				
	ИТОГО	100	80	60	40	20

**Point-rating assessment (check-list) of medical history management (maximum 100 points)**

№	Criteria (evaluated according to the point system)	10	8	6	4	2
		<i>Excellent</i>	<i>Good</i>	<i>Satisfactory</i>	<i>Need correction</i>	<i>Bad</i>
1	Patient complaints: primary and secondary	Complete and systematic, with an understanding of important details	Accurate and complete	Basic information	Incomplete or inaccurate, some details are missing	Misses the important thing
2	Collection of anamnesis of the disease					
3	Anamnesis of life					
4	Objective status - general examination	Complete, efficient, organized, with an understanding of important details	Consistently and correctly	Identifying key data	Incomplete or not quite correct, not attentive to the patient's comfort	Inconsistent data
5	Respiratory system	Complete, effective, technically correct application of all skills of inspection, palpation, percussion and auscultation	Complete, effective, technically correct application of all examination skills, physical examination with minor errors, or corrected during performance	Basic data identified Physical examination skills learned	Incomplete or inaccurate Physical examination skills require improvement	Missing Important Data Inappropriate Physical Examination Skills
6	Cardiovascular system					
7	Digestive system					
8	Urogenital system					

9	Musculoskeletal system	Complete, effective, technically correct application of all special examination skills				
10	Presentation of medical history	The most complete description and presentation Understood the problem as a whole, connects it with the patient's characteristics	precise, focused; choice of facts shows understanding	The entry form includes all the basic information;	Many important omissions, often includes false or unimportant facts	Lack of control over the situation, many important omissions, many clarifying questions

**Point-rating assessment (check-list) of the ISW (independent student's work) - creative task (maximum 90 points) + bonuses for English and time management**

		<b>10</b>	<b>8</b>	<b>4</b>	<b>2</b>
<b>1</b>	<b>Problem solving</b>	The organized concentrated, allocates all questions which are falling into to the main revealed problem with a comprehension of a concrete clinical situation	Organized, the concentrated, allocates all questions which are falling into to the main revealed problem, but there is no comprehension of a concrete clinical situation	Not the concentrated, Derivation on the questions which are not falling into to the main revealed problem	Inaccurate, misses the main thing, disharmonious data.
<b>2</b>	<b>Information</b>	All necessary information on a subject in the free, serial, logical manner is completely conveyed The product form is adequately chosen	All necessary information in a logical manner, but with shallow inaccuracies is conveyed	All necessary information on a subject is explained chaotically, with not gross errors	Important information on a subject, gross errors is not reflected
<b>3</b>	<b>Significance</b>	Material is chosen on the basis of authentically established facts.	Some conclusions and the conclusions are formulated on the basis of assumptions or the incorrect facts. There is no	Not the sufficient comprehension of a problem, some conclusions and the conclusions are based on the	Conclusions and the conclusions are not proved or irregular

		Manifestation of a comprehension on the level or quality of proofs	complete comprehension of level or quality of proofs	inexact and not proved data – doubtful resources are used	
4	<b>Logic</b>	logical and well reasoning, has internal unity, provisions in a product follow one of another and are logically interdependent between themselves	Has internal unity, provisions of a product one of another follows, but there are inaccuracies	There is no sequence and logicity in statement, but it is possible to keep track of the main idea	Jumps from one on another, it is difficult to catch the main idea
5	<b>Recourses</b>	Literary data are submitted in logical interrelation, show deep study of the main and padding informational resources	Literary data show study of the main literature	Only ordinary recourses	Inconsistency and randomness in statement of data, an inconsistency There is no knowledge of the main textbook Using of Google
6	<b>Practical application</b>	High	Good	moderate	no
7	<b>Patient focusing</b>	High	Good	moderate	no
8	<b>Applicability in future practice</b>	High	Good	moderate	no
9	<b>Presenation</b>	Correctly, to the place all opportunities of Power Point or other e-softs, the free possession of material, a sure manner of statement are used	It is overloaded or are insufficiently used visual materials, inexact possession of material	Visual materials are not informative	Does not own material, is not able to explain it
<b>b o n u s</b>	<b>Time management*</b>	10 For before deadline	In time	Good quality but a little late Minus 2-4	After deadline more than 24 hours Minus 10
<b>b o</b>	<b>Rating**</b>	10 points additional	Outstanding work, for example: The best work in group		

<b>n</b> <b>u</b> <b>s</b>			Creative approach Innovative approach to realization of a task According to the proposal of group
	* The deadline is determined by the teacher, as a rule - the day of the boundary control ** thus, you can get 90 points as much as possible, to get above 90-you need to show a result higher than expected		