BISHKEK INTERNATIONAL MEDICAL INSTITUTE | GENERAL MEDICINE

APPROVED
EMD decision
"__" _____ 2021
Protocol No. 5
Chairman of the EMC, Vice-Rector, candidate of pedagogical sciences, associate professor Apezova D.U.

SYLLABUS
by discipline

B.3.2.3. HEMATOLOGY

For students of the educational program, higher professional education in the specialty 560001 "General Medicine" (5-year education) in the specialty "Doctor"

Type of study work	Total hours
course	3
Semester	6
Number of weeks	18
Credits	2
The total complexity of the discipline	60
Classroom/practical studies (PS)	36
Student Independent Work (SIW)	24
Forms of control	
current control	Testing, oral questioning, written test
Frontier control	Testing
Midterm	Testing
Final control	exam
Semester rating by discipline:	Point-rating system

Information about the teacher of the academic discipline

Full Name	Jumagulova Jyldyz Osmonalievna
Post	teacher
Academic degree	Candidate of medical sciences
Academic title	Docent
Email address	-
Location of the department (address)	KR, Bishkek, st. Shabdan Baatyr 4/4, floor 2
Telephone	0550030xxx
Consultation hours	13.00-14.00

Characteristics of the academic discipline

The purpose of studying the discipline: Training in the selection of effective, safe, economically justified medicines for modern individualized pharmacotherapy using the latest information on pharmacokinetics, pharmacodynamics, interaction and side effects of drugs, the provisions of evidence-based medicine and the formulary system. The course of study of the discipline includes teaching the principles of early diagnosis of hematological diseases. Students study general issues of the functioning of the hematopoiesis system, functional and morphological features of blood cells, their standards, physiological and biochemical foundations of the functioning of various parts of the hemostasis system, the basics of

immunology and immune disorders in various diseases of the blood system, the first signs of diseases of the blood system and conditions for which specialized care is needed, the basics of transfusiology and transfusion therapy in blood diseases; indications for the appointment of transfusion therapy (determination of group and rhesus affiliation), the basics of dispensary observation of hematological patients, the system of rational provision of patients with expensive vital medicines, Modern research methods in hematology, etiology and pathogenesis of diseases, pathological mechanisms of the main clinical and laboratory syndromes, modern classifications, the sequence of objective examination of patients with various hematological diseases. Standards of medical care. Fundamentals of pharmacotherapy of gastroenterological diseases, pharmacodynamics of the main groups of drugs, contraindications, complications of drug therapy, features of treatment of patients with combined pathology. Indications for hospitalization of hematological patients (planned, emergency). Also, students should know the basics of non-drug therapy of hematological patients (diet, physiotherapy, physical therapy). Principles of conducting and monitoring the effectiveness of medical rehabilitation of patients with hematological diseases, including rehabilitation of the disabled. Standards of medical care.

Discipline Prerequisites:

- Latin
- Biology with elements of ecology
- Chemistry
- General clinical biochemistry
- Normal physiology
- Propedotherapy
- Propedsurgery
- Basic pharmacology
- Microbiology, Virology and Immunology
- Pathological anatomy
- Pathological physiology
- General clinical Biochemistry
- Histology, embryology
- General hygiene
- Medical genetics

Postrequirements of the discipline:

- Faculty therapy
- Hospital therapy
- Childhood illnesses
- Outpatient pediatrics
- Children's infectious diseases
- Surgical diseases
- Urology
- Oncology
- Anesthesiology, intensive care, emergency conditions
- Public health and healthcare
- Epidemiology
- Clinical pharmacology
- Neurology with the basics of neurosurgery
- Infectious diseases

Learning outcomes of the discipline according to the RO GPP

The study of the subject of hematology will contribute to the achievement of RE GEP:

RE-8 - To interpret, analyze and evaluate the data of clinical, laboratory and instrumental diagnostic methods, to make a treatment plan, including emergency care, taking into account the urgent and priority signs of the disease.

Competencies:

PC-16 is capable and ready to use the algorithm of diagnosis (main, concomitant, complications) taking into account the ICD, perform basic diagnostic measures to identify urgent and life-threatening conditions;

PC-17 is capable and ready to perform basic therapeutic measures for the most common diseases and conditions in adults and children in outpatient and hospital settings.

Content of the discipline

№№	Name of topics
1.	Organization of hematological care.
2.	State policy in the field of public health protection. Types of hematological care. Outpatient hematological care. Organization of work of the polyclinic. Organization of medical care for hematological patients
3.	The procedure and standards of medical care for patients with blood diseases. Inpatient hematological care. Organization of hematology centers. Standards of hematological care. Standards of high-tech types of hematological care. Indicators of evaluation of outpatient and inpatient hematology care. Disability and rehabilitation
4.	General hematology. Theoretical foundations of clinical hematology. The doctrine of the cell. Modern theory of hematopoiesis. Structure and functions of hematopoietic organs
5.	Functions of the bone marrow, lymph nodes, spleen. Regulation of hematopoiesis. Hematopoiesis is normal. Hematopoiesis in various diseases.
6.	Private hematology. Acute leukemia. General concepts, disorders of the cellular composition of hematopoietic organs. The substrate of the cell in acute leukemia. Classification of acute leukemia. General principles of therapy. Acute myeloblastic leukemia. Acute lymphoblastic leukemia. Acute monoblastic leukemia. Acute erythromyelosis. Acute megakaryoblastic leukemia. Acute eosinophilic leukemia. Chronic leukemia. The substrate of the cell in chronic leukemia.
7.	Classification of chronic leukemias. Chronic myeloid leukemia. Osteomyelofibrosis. Chronic lymphocytic leukemia. Essential thrombocytemia. Erythremia. Polycythemia. Paraproteinemic hemoblastoses. Diagnostics. Differential diagnosis. Multiple myeloma. Waldenstrom's disease is a cytostatic disease. The main cytostatic drugs. Survival of patients. Glucocorticosteroid therapy in hematology. Antibacterial therapy in hematology.
8.	Operative hematology Indications for splenectomy in hematology. Indications for bone marrow transplantation. Problems of selection of donor bone marrow, prognosis after TCM. Biopsy of lymph nodes, spleen.
9.	Anemia Chronic iron deficiency anemia. Iron metabolism in the body. Anemia caused by a violation of porphyrin synthesis. Megaloblastic anemia. Vitamin B12 deficiency anemia, folate deficiency anemia. Hemolytic anemia. Classification. Congenital and acquired hemolytic anemia. Autoimmune hemolytic anemia
10.	Pathology of hemostasis Hemorrhagic diathesis due to various causes. Autoimmune 13 thrombocytopenic purpura. Violation of plasma hemostasis. Hemophilia. Disseminated intravascular coagulation (hereinafter referred to as DIC syndrome) in hematology. Shock and terminal conditions in hematology. Thrombophilic syndrome.
11.	Lymphomas. Lymphogranulomatosis. Lymphoma of the lymph nodes. Lymphoma of the lungs. Lymphoma of the spleen. Lymphoma of the tonsils. Methods of treatment of patients with lymphomas. Cytostatic, radiation therapy
12.	Transfusiology and blood transfusion of blood group, Rh factor. Preservative solutions for blood. Determination of blood type in the presence of thermal agglutinins. Indications and contraindications for blood transfusion. Complications of transfusion therapy. Plasmapheresis. Indications, contraindications. Determination of blood groups and Rhesus affiliation.
13.	Leukemoid reactions Myeloid leukemoid reactions. General concepts. Varieties of myeloid leukemoid reactions. Erythrocytosis. Thrombocytosis. Eosinophilia, basophilia. Parasitosis. Stunning eosinophilia. Differential diagnosis. Macrophage-monocytic reactions. True histiocytosis "X". Lymphoid leukemoid reactions. Infectious mononucleosis. Changes in the blood in tuberculosis. Changes in the blood in cat scratch disease. Infectious lymphocytosis. Mantoux test for tuberculosis and cat scratch disease
14.	Urgent conditions in hematology Acute abdomen with bleeding into the abdominal cavity. Acute abdomen in inflammatory diseases. Acute abdomen with impaired blood supply to the pelvic organs. Septic conditions in hematology

List of main and additional literature:

Main literature:

1. Visual hematology: translated from English / edited by V. I. Ershov. - 2nd ed. - Moscow: GEOTAR-Media, 2008. Title: Haematology at a glance / Atul B. Mehta, A. Victor Hoffbrand

2. Storozhakov, G. I. Polyclinic therapy [Text]: [textbook for higher professional education] / G. I. Storozhakov, I. I. Chukaeva, A. A. Alexandrov. - 2nd ed., reprint. and add. - Moscow: GEOTAR-Media, 2017.

Additional literature:

1. 1. Internal diseases: tests and situations. tasks: [study. manual for higher Prof. education] / V. I. Makolkin et al. – Moscow: GEOTAR Media, 2012.
2. Ermolin, A. E. Guide to the differential diagnosis of leukopenia, enlarged lymph nodes and spleen. Acute and chronic leukemia / A. E. Ermolin. – Moscow: Binom, 2007.
3. Anderson, Sh. K. Atlas of Hematology Sh. K. Anderson, K. B. Poulsen; trans. [from English] I. A. Popova, V. P. Saprykina. – Moscow: Logosphere, 2007.

Internet resources:

1. https://drive.google.com/drive/u/2/folders/1iUdsijeLnQupD7_BJaGlhA--D1mZA2yU
2. http://books-up.ru.
3. http://e.lanbook.com.

Monitoring and evaluation of learning outcomes

The content of the rating system for assessing student performance

The rating assessment of students' knowledge in each academic discipline, regardless of its total labor intensity, is determined on a 100 (one hundred) - point scale and includes current, boundary, intermediate and final control.

The distribution of rating scores between types of control is established in the following ratio (according to the table of the score-rating system of assessments):

Form of control				
current (CC)*	boundary control (BC)**	mid-term exams (MC)***	Final /exam (FE)	Discipline Rating (RD)
0-100 points	0-100 points	0-100 points	0-100 points	0-100 points, with the translation of points into a letter designation

Note:

* ТК$(middle) = \frac{\sum_1^n \times point}{\sum_1^n}$, where n is the number of types of classroom and extracurricular work of students in the discipline;

**РК $(middle) = \frac{\sum_1^n credit \times point}{\sum_1^n credits}$, where n is the number of modules (credits) in the discipline;

***ПК $(middle) = \frac{\sum_1^n \times point}{\sum_1^n}$, where n is the number of intermediate controls (2 controls per semester: in the middle and at the end of the semester) by discipline;

****ИК – examination conducted at the end of the study of the discipline

;

*****РД = $\frac{\text{ТКср+РКср+ПКср+ИК}}{4}$, the final rating of the results of all types of control at the end of the discipline;

GPA= $\frac{\sum_1^n \times \text{балл}}{\sum_1^n}$ where, n is the number of disciplines in the semester (for the past period of study).

A student who has not passed the current, boundary and intermediate controls to the final control (exam) is not allowed.

The current control is carried out during the period of classroom and independent work of the student on time according to the schedule, at the end of the study of the discipline, the average score of the current control (CC) is calculated**.** *Forms of current control can be*:

- testing (written or computerized);
- performance of individual homework assignments, abstracts and essays;
- student's work in practical (seminar) classes;
- various types of colloquia (oral, written, combined, express, etc.);
- control of performance and verification of reporting on laboratory work;

- visiting lectures and practical (seminar, laboratory) classes;
- Incentive rating (up to 10 points).

Other forms of current monitoring of results are also possible, which are determined by the teachers of the department and recorded in the work program of the discipline.

The frontier control is carried out in order to determine the results of the student's development of one credit (module) as a whole. *Frontier control* should be carried out only in writing, at the end of the study of the discipline, the average score of boundary control (BC) is calculated. As forms *of frontier control* of the training module, you can use:

- testing (including computer testing);
- interview with written fixation of students' answers;
- test.

Other forms of intermediate control of results are also possible.

Intermediate control (mid-term exams) is carried out in order to check the completeness of knowledge and skills in the material in the middle and end of the semester (2 times per semester) of studying the discipline, by the end of the study of the discipline, the average score of intermediate control (PCsr) is calculated, *forms of intermediate control (mid-term exams) can be:*

- testing (including computer testing);
- interview with written fixation of students' answers;
- test.

Other forms of intermediate control of results are also possible.

The final control is carried out during the session, by conducting an exam, it can be carried out in the following forms:

- testing (including computer testing);
- written exam (ticketing system).

Correspondence of the point-rating system of assessments used by the institute and the assessments of the European system for the transfer of credit units, labor intensity (ECTS)

Grade						Criterion
System of letters	digital system	Traditional system	Points (%)	Scored points (max - 100)	Evaluation by discipline without an exam	
A	4	5	95-100	95-100	Credited/ passed	"Excellent" - deserves a student who has shown a deep, systematic and comprehensive knowledge of the educational material, who freely performs practical tasks, who has mastered the recommended basic and additional literature on the discipline
A-	3,67		90-94	90-94		"Excellent" - deserves a student who has shown a deep, systematic and comprehensive knowledge of the educational material, who freely performs practical tasks, who has mastered the recommended basic literature on the discipline, but is not familiar with additional literature
B+	3,33	4	85-89	70-89		"Good" - exhibited to a student who has shown a systematic and comprehensive knowledge of the educational material, able to independently replenish and update this knowledge in the course of training, performing practical tasks, familiar with the main literature on the discipline
B	3,0		80-84			"Good" is given to a student who has shown a systematic and comprehensive knowledge of the educational material, who is able to independently replenish this knowledge in the course of training, performing practical tasks, but not fully familiar with the main literature on the discipline
B-	2,67		75-79			"Good" - is given to a student who has shown the systematic nature of knowledge in the discipline, who is able to independently replenish this knowledge in the course of training, performing practical tasks, but not fully familiar with the main literature on the discipline
C+	2,33	3	70-74			"Satisfactory" - is given to a student who does not have a systematic nature of knowledge in the discipline, who is not capable of independently replenishing and updating knowledge in the course of further education, performing practical tasks with errors
C	2,0		65-69	50-69		"Satisfactory" - is given to a student who made mistakes in completing assignments, but who has the necessary knowledge to eliminate them under the guidance of a teacher

C-	1,67		60-64			"Satisfactory" - is set to a student who made errors in the performance of tasks, but who has the possible knowledge to eliminate them under the guidance of a teacher
D+	1,33		55-59			"Satisfactory" - is set to a student who made errors in the performance of tasks, who does not have the necessary knowledge to eliminate them
D-	1,0		50-54			Satisfactory" - is given to a student who has made significant errors in the performance of tasks, who does not have the necessary knowledge to eliminate them
FX	0,5	2	25-49	Less of 50	not credited/not passed	"Unsatisfactory" - is set to a student who has not completed the task, does not have the necessary knowledge to eliminate them
F	0		0-24			"Unsatisfactory" - is set to a student who has not completed the task, does not have the necessary knowledge to eliminate them, even under the guidance of a teacher

Academic achievement requirements:

Attendance by students of all classroom classes without delay is mandatory.
In case of absence, classes are worked out in the order established by the dean's office.
If there are three passes, the teacher has the right not to allow the student to attend classes until the issue is administratively resolved.
If the absence of classes is more than 20.0% of the total number of classes, the student automatically enters the summer semester.

Note to the student:

- ✓ regularly review lecture material;
- ✓ Do not be late and do not miss classes;
- ✓ work off missed classes if you have permission from the dean's office;
- ✓ Actively participate in the classroom (individually and in groups;)
- ✓ timely and fully complete homework assignments;
- ✓ submit all assignments within the time specified by the teacher;
- ✓ independently study the material in the library and at home;
- ✓ timely and accurately fulfill the tasks of the teacher, individual tasks for the IWS to achieve learning outcomes;
- ✓ to master the basic and additional literature necessary for the study of the discipline;
- ✓ performing tasks, the student should not copy or reproduce the work of other students, scientists, practitioners, plagiarism;
- ✓ develop their intellectual and oratory skills;

In case of non-compliance with the requirements of the Memo, the student will be penalized in the form of deducting points (one point for each violated item).

If the requirements of the Memo are fully met, the student is encouraged in the form of an additional 10 points to the final control in the discipline.

Academic Integrity, Conduct and Ethics Policy:

- turn off your cell phone during class;
- Be polite;
- respect other people's opinions;
- formulate objections in the correct form;
- do not shout or raise your voice in the audience;
- independently complete all semester assignments;
- Eliminate plagiarism from your practice;

Methodical instructions.

It is recommended to organize the time required to study the discipline as follows:
When preparing for a practical lesson, you must first read the abstract with the teacher's explanations.
When performing exercises, you must first understand what you want to do in the exercise, then proceed to its implementation.
Literature work. The theoretical material of the course becomes more understandable when books are studied in addition to the abstract. After studying the main topic, it is recommended to perform several exercises.

Preparation for boundary and intermediate controls. In preparation for the boundary and intermediate control, it is necessary to study the theory: the definitions of all concepts before understanding the material and independently do several exercises.

Independent work of students is organized on all studied topics of each section. Independent work is carried out in the form of:

- work in Internet sites;
- work with basic and additional literature;
- fulfillment of written assignments;
- preparation of reports, abstracts, tables and posters on