INTERNATIONAL HIGHER SCHOOL OF MEDICINE

Internal Medicine Department

SYLLABUS
Transfusion therapy in leukemias

2026-2027 academic year
for students of medical faculty
5 course 10 semester, groups
2 credits (60 h, including auditorial 32 h, independent work 28 h)

Lecturer: **Makimbetov Emil**
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Venue: Zoom

Practical classes: **Makimbetov Emil**
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Venue: Department in National Center of Oncology and Hematology

The Syllabus is considered
at the meeting of the department of internal medicine
Protocol № 1 dated 28.08.2026
Head of the department prof. Kudaibergenova N.T.

Course Objective: consists in mastering knowledge about the impact of transfusion therapy in leukemia, as well as the principles of organizing the provision of medical care for complications, skills and abilities in the treatment and prevention of acute leukemia in children.
After study of the discipline the student must:
Knowledge:
- issues of medical ethics and deontology;
- goals and objectives, principles and methods of asepsis and antisepsis in professional activity;
- various methods of searching and summarizing data from various biomedical and clinical disciplines.
Skill:
- to reveal the meaning of the basic ethical and deontological principles of the work of medical staff.
- choose and apply various methods of asepsis and antisepsis according to the goals and objectives of professional activity.
- synthesize and analyze data from a variety of biomedical and clinical disciplines.
Attitude:
- skills of communication with the patient in the medical team in compliance with the ethical and deontological principles of work
- skills in the search and selection of new methods and data in the field of various biomedical and clinical disciplines aimed at protecting public health
Pre-requisites.
Macroanatomy and Microanatomy
Normal Physiology
Pathology (pathological anatomy, pathological physiology)
Basic and Clinical Pharmacology
Propedtherapy
Oncology
Post-requisites.
Outpatient Pediatrics
Family Medicine
Anesthesiology, Intensive Care, Emergency Conditions

THEMATIC PLAN OF LECTURES

№	Theme of lecture	Hours	Date
1	Fundamentals of hematology	2	09.2026-05.2027
2	Acute lymphoblastic leukemia	4	09.2026-05.2027
3	Acute myeloid leukemia	2	09.2026-05.2027
4	Principles of transfusion therapy in leukemias, complications, treatment.	4	09.2026-05.2027

THEMATIC PLAN OF PRACTICAL CLASSES

№	Theme of practical class	Hours	Date
1	Acute lymphoblastic leukemia	4	09.2026-05.2027
2	Acute myeloblastic leukemia	4	09.2026-05.2027
3	Examination (module)	2	09.2026-05.2027
4	Transfusion therapy in leukemias, complications, treatment	4	09.2026-05.2027
5	Polychemotherapy, intrathecal therapy, transfusion of blood components, hematopoietic stem cell transplantation	4	09.2026-05.2027
6	Examination (module)	2	09.2026-05.2027

THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

Unit №	Theme of independent work	Hours	Date
1	Acute leukemias	14	09.2026-05.2027
1	Principles of treatment in leukemias	14	09.2026-05.2027

Recommended reading for the discipline:

Basic:

1. Alex Kagan Edward D. Ball. Jones and Bartlett “100 Questions & Answers About Leukemia” 2023 1- edition.
2. P.A. Buffler, S. Selvin et al. Br. J. Cancer “Clinical importance of minimal residual dieses in childhood acute lymphoblastic leukemia” 2020 – Vol. 96.

Additional:

1. Shing, M.M. “Outcomes and prognostic factors of Chinese children with acute lymphoblastic leukemia in Hong Kong: preliminary results” 2019 Vol. 32, № 2

Grading policy and procedures for all types of work

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):
current score - 40 points
independent work - 20 points
control score (final assessment of knowledge per unit) - 40 points
Maximum score - 100 (40+20+40)

Grading system for student’s achievements

Grading criteria per discipline				
Maximum score	Intervals			
	«unsatisfactory»	«satisfactory»	«good»	«excellent»
Current control - 40	0-23	24-30	31-35	36-40
Interval description	Not ready for class	Passive, does not participate in the discussion of the topic of the lesson	Actively participates in the discussion of the topic of the lesson, periodically gets confused about the details.	Actively participates in the discussion of the topic of the lesson, gives a complete accurate answer to the question.
Independent work - 20	0-11	12-15	16-17	18-20
Interval description	the work is not done	Not fully complied	the work has been completed in full, there are minor errors	the work is completely done without errors
Control work (module) - 40	0-23	24-30	31-35	36-40
Interval description	Completed less than 50% of the tasks	Completed 50-70% of tasks	Completed 70-90% of tasks with comments	Completed in full (90-100% of tasks) without comments

Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).

- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-10 points.

Academic Ethics Policy.

- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.

For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-10 points.

Guidelines for the lessons of the discipline

Key questions covered in lesson 1: ALL

1. Pathogenesis of disease
2. Clinical features
3. Investigation
4. Principles of treatment.

Recommended reading for the class:
[1] pp 178-197

Key questions covered in lesson 2: AML

1. Pathogenesis of disease
2. Clinical features
3. Investigation
4. Principles of treatment.

Recommended reading for the class:
[1] pp 198-225

Key questions covered in lesson 3:

1. Module (oral examination, assessment of skills)

Recommended reading for the class:
[1] pp 7-300

Key questions covered in lesson 4: Transfusion therapy in leukemias, complications, treatment

1. Solving situational problems,
2. Answers to the questions

Recommended reading for the class:
[1] pp 230-250

Key questions covered in lesson 5: Polychemotherapy, intrathecal therapy, transfusion of blood components, hematopoietic stem cell transplantation

1. Solving situational problems,
2. Answers to the questions

Recommended reading for the class:
[1] pp 252-275

Key questions covered in lesson 6:

2. Module (oral examination, assessment of skills)

Methodological instructions for the implementation of independent work on the discipline.

Theme of independent work	Instructions
Acute leukemias	Write a summary
Principles of treatment in leukemias	To prepare PPT

PPT: Each student must prepare a 10-15 slide PowerPoint presentation on their assigned topic.
The presentation must include a theoretical overview, practical applications, and current research findings

Summary: The essay should be **3–5 pages** (Times New Roman, font size 12, line spacing 1.5).

1. **Structure**
   - **Introduction**
     - Justification of the topic choice.
     - Aims and objectives of the essay.
   - **Theoretical Overview**
     - Key concepts and definitions.
     - Main theories, approaches, or models related to the topic.
   - **Practical Applications**
     - Examples of applying theory in real practice.
     - Case studies, clinical cases, or applied research.
   - **Current Research Findings**
     - Brief review of recent publications (last 5–7 years).
     - Key conclusions of modern researchers.
   - **Conclusion**
     - Summary of the analysis.
     - Personal perspective or recommendations.
2. **Formatting**
   - References must be included.
   - Bibliography at the end (at least 5–7 sources, preferably scientific articles and textbooks).

- Clarity and logical flow of the text.

3. **Content Requirements**
   - Clear connection between theory and practice.
   - Critical analysis rather than simple retelling.
   - Ability to highlight the main points.