

AL-FARABI KAZAKH NATIONAL UNIVERSITY

FACULTY OF MEDICINE AND HEALTHCARE

CHAIR OF EPIDEMIOLOGY, BIostatISTICS AND EVIDENCE-BASED  
MEDICINE

**PROGRAM FINAL EXAM BY DISCIPLINE**

# Medical Ecology

6 credits

Composer: senior lecturer F.A.Iskakova

**LMC OF COURSE IS APPROVED**

**On Academic Council of Medicine and Public Care Faculty  
Protocol N from “ “\_\_\_\_\_2025.**

**Reviewed and recommended at the meeting of  
Epidemiology, Biostatistics and Evidence-Based Medicine  
Department from “ “ \_\_\_\_\_ 2025, Protocol N  
Recommended by the faculty methodical bureau  
« \_\_\_\_\_ »2025, Protocol N**

Almaty, 2025

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## **PROGRAM OF FINAL EXAM ON DISCIPLINE "MEDICAL ECOLOGY"**

Study topics for the exam: The final exam is conducted in the form of an "essay". Thematic content covers all types of work: topics of lectures and seminars, as well as assignments for independent work of 6B10105 specialty "Public Health".

### **Learning outcomes:**

1. Know the basic concepts and problems in ecology that have harmful effects on public health using concepts, terms, and exposure factor.
2. Evaluate the impact of environmental factors on the human body to determine basic epidemiological indicators.
3. Design an environmental study plan.
4. Present the results of an ecological study based on informative epidemiological indicators for comparative assessment of the health status of the population.
5. Analyze a statistical study based on quantitative methods and new information technologies.

### **List of topics to prepare for the exam**

#### **Module 1. Bases of Bioethics**

- TOPIC 1. Subject of medical ecology as a science and field of practice.
- TOPIC 2. Modern concepts and trends in medical ecology.
- TOPIC 3. The quality of the human environment.
- TOPIC 4. Influence and adaptation of the human organism to ecological environmental factors.
- TOPIC 5. Concepts of 'health risk' and environmental risk'. Stages of risk assessment. Risk management.
- TOPIC 6. Types of environmental monitoring, methods of risk assessment, and impact on Public Health.
- TOPIC 7. Regulatory documents for the assessment of maximum permissible concentrations of harmful substances in water, air, and soil.
- TOPIC 8. Assessment of the impact of environmental pollution on the health of the population.
- TOPIC 9. Assessment of the hydrosphere and the impact of its pollutants on public health. public health (review of several articles).
- TOPIC 10. Assessment of lithosphere and its polluting factors on public health.
- TOPIC 11. Evaluation and assessment of physical environmental factors and their impact on human health. Action plans to reduce the harmful effects of physical substances.
- TOPIC 12. Assessment of chemical environmental factors and their impact on public health. Action plans to reduce the harmful effects of chemical.
- TOPIC 13. Assessment of nutrition and the impact of harmful substances associated with their quality and preparation on the population's health.
- TOPIC 14. Assessment of indoor spaces and their impact on health.

## TOPIC 15. Climate change and its impact

### EXAM RULES

1. At the time set by the teacher, master students are authorized in the IIC UNIVER and get access to the task "Final exam in the discipline".
2. Learn the topics of the instructor's essay.
3. Perform the task within 3 hours
  - 3.1 Load the completed work IIC UNIVER in the element "Final exam in the discipline",
  - 3.2 select the item "Add answer to the task",
  - 3.3 upload their works in the file upload field,
  - 3.4 click "Save".

### The form of the final control (exam): WRITTEN- ANSWER TO QUESTIONS

Form of conducting final control (exam) *.	Used platform	For whom recommend	Availability of proctoring, video recording, verification for plagiarism	Possibility Automatic generating of tickets/questions	How is done verification of works
WRITTEN: ANSWER TO QUESTIONS	IIC UNIVER	For bachalors	Proctoring - no. Video recording at individual work - not required. Mandatory check for plagiarism in the works of doctoral student Topic Provided automatic check work for availability plagiarism with using 2 services: Antiplagiarism (required) and Strike Plagiarism (if necessary). 1 PPP check for 1 time of exam paper. Using Antiplagiarism system. PPP can provide possibility of checking work for a PhD student - 1 attempt configures in system teacher).		1. Teacher discipline gets result 2. Transfer points to IS Univer Statement.



## Research infrastructure

1. Auditorium Internet resources
1. Kaznu Library
2. MOOC / video lectures, etc. 3.[www.who.org](http://www.who.org)
4. [www.cdc.gov](http://www.cdc.gov)
5. <https://pubmed.ncbi.nlm.nih.gov/> Software (optionally)
1. IBM SPSS – 26 version
2. Excel program