

Al-Farabi Kazakh National University Faculty Medicine and  
Healthcare Chair on Epidemiology, biostatistics and evidence-  
based-medicine

**PROGRAM OF THE FINAL EXAM  
ON COURSE**

**НАУҚАС ЖӘНЕ ҚОҒАМ/ПАЦИЕНТ И ОБЩЕСТВО/PATIENT AND SOCIETY**

**MAJOR PROGRAMME  
6B101 Public Health**

**EDUCATION PROGRAMME  
6B10103 GENERAL MEDICINE**

6 credits

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**TMC OF COURSE IS CONFIRMED**

**On Academic Council of Medicine and Public Care Faculty**  
Protocol N \_\_\_\_\_ 2022.

**Department**

from « \_\_\_\_\_ » . 2022, Protocol N \_\_\_\_\_

**Recommended by the faculty methodical bureau**

« \_\_\_\_\_ », 2022, Protocol N \_\_\_\_\_

Almaty, 2022

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**PROGRAM**  
**OF THE FINAL EXAM ON COURSE “PATIENT AND SOCIETY”**  
6 credits

The purpose of the program is to evaluate the knowledge, skills and abilities acquired by the 3rd year student in the course of studying the discipline.

**The exam consists of two stages.**

**First stage** is comprehensive testing. The goal is to check the level of theoretical training of students, mastery of skills, readiness for professional activity and development of professional thinking.

**Second stage** is an assessment of practical skills for understanding an epidemiology of diseases, an application of epidemiological and statistical methods with high-quality results for solving public health issues. The purpose of this stage is to demonstrate the application of knowledge, skills and abilities in accordance with the qualification requirements.

**The final grade includes:**

Testing - 50% (100 holding, comprehension and application tests).

Skills: PBL - case study: on epidemiology, biostatistics and evidence-based medicine.

**This is combined exam N3.** Thematic content covers all types of work: topics of lectures and seminars, as well as assignments for students' independent work. The exam consists of 2 stages in the MOODLE LMS.

**Learning Outcomes:**

1. Identify health problems at the population level;
2. Be able to integrate scientific evidence with physician's clinical experience and patient values;
3. To be able to use conscientiously, accurately and meaningfully reliable results of clinical trials for a choice of particular patient's treatment;
3. Possess knowledge, skills and abilities of basics of evidence-based medicine, which allow to critically evaluate medical information for rational use in further practice;
4. Apply exposure-oriented knowledge of disease's epidemiology to assess various external environmental factors in context of a formation of pathology in a particular patient
5. Apply different approaches to understand social, economic and political forces that affect both the burden of disease and the ability of the health system to improve it.
6. Apply knowledge of outcome-based disease epidemiology to identify and improve the effectiveness of therapeutic and preventive health care programs.
7. Recognize and analyze ethical issues in practice that based on the ethical principles as a base of clinical care, research and professionalism in general;
8. Critically assess evidence and use it appropriately in clinical decisions and public health management in the context of national and global health policy.
9. Demonstrate adherence to the highest standards of professional responsibility and integrity; comply with ethical principles in all professional interactions;
10. Demonstrate needs for continuous professional training and improvement of their knowledge and skills;
11. Demonstrate skills of conducting scientific research, desires for new knowledge and transfer it to others;
12. Apply knowledge and skills of population's health surveillance, including epidemiological surveillance over infectious diseases;
13. Apply modern statistical methods of analysis in medical and biomedical research and independently use computer statistical programs.

**List of examination items for a preparation to exam**

<b>Sem 2.</b> Epidemiological Methods and Study Design
<b>Sem 3.</b> Epidemiology of infectious diseases. Outbreak investigation.
<b>Sem 4.</b> Epidemiology of chronic non-communicable diseases.
<b>Sem 5.</b> Fundamentals of Evidence-Based Medicine and 5 stages of Evidence-Based Medicine.
<b>Sem 6.</b> Search and critical analysis of scientific medical publications.

<b>Sem 7.</b> Fundamentals of surveillance. Sanitary and epidemiological regime in medical and preventive organizations.
<b>Sem 8.</b> Introduction to Biostatistics. Types of variables. Types of distribution, descriptive statistics. Databases (Excel, SPSS).
<b>Sem 9.</b> Types of statistical hypotheses. Hypothesis testing. P-value. Standard error and confidence interval.
<b>Sem 10.</b> Introduction to analytical statistics. Methods for the analysis of qualitative variables, independent and related samples (Chi-square test. Fisher's exact test, McNemar's test).
<b>Sem 11.</b> Parametric Tests (T-tests, ANOVA). Normal distribution. Non-parametric tests (Mann-Whitney U-test)
<b>Sem 12.</b> Non-parametric Tests (Mann-Whitney U-test, Wilcoxon U-test, Kruskal-Wallis Test, Friedman Test.
<b>Sem 13.</b> Correlation (Pearson and Spearman) and regression. Survival analysis Log-rank test.
<b>Sem 14.</b> Systematic review and meta-analysis. Evaluation of clinical protocols and recommendations. GRADE.
<b>Sem 15.</b> Presentation of scientific projects.

### EXAM RULES

At the time set by the teacher, students are authorized in the Moodle LMS and get access to the task "Final exam in the discipline" This one stage for preparing and writing thesis on the results of research, and submit in Moodle LMS .

#### Timing, group assignment

1. Study the topics of the instruction
2. Perform the task within 3 hours.
3. Load the completed work on the project: creative task into LMS Moodle, for this:
  - students log into the Moodle LMS
  - open the element "Final exam in the discipline"
  - select the item "Add answer to the task"
  - upload their works in the file upload field
4. click "Save".

#### The form of the final control (exam):

##### WRITTEN:

##### PROJECT,CREATIVETASK

The form holding the final control (exam) *	Use weary platform	For whom recommended	Availability proctoring, video recordings, check for plagiarism	Opportunity automatic generating tickets / questions	how carried out check works
WRITTEN: Project, creative task	LMS Moodle	Bachelors of School of Medicine	Proctoring no. Video recording at Individual work - not required. Mandatory check for plagiarism in the works of students. Provided automatic Check work for availability plagiarism with using service: Anti-plagiarism. 1 PTS check for 1 job. Anti-plagiarism systems	No	1. Teacher gets ready files / responses in LMS Moodle. 2. Teacher evaluates work, conducts check for availability plagiarism. 3. Teacher exhibits points in LMS Moodle. 5. Teacher transfers points in statements of IS Univer

			can provide opportunity checks work with 1 attempt (configures in system teacher).	
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### General evaluation Policy

The exam directed to assess of four areas: to determine cognitive competencies, system competencies, functional competencies (memorization, understanding and application) and teamwork.

### Evaluation Policy: Project: creative task

Steps	Parts of case study	Tasks to case study	Scores
1	Epidemiology, Evidence-based Medicine	Problem definition. Create research question with using PICOT framework.	0-12
2	Evidence-based Medicine	Literature review in evidence-based sources.	0-12
3	Epidemiology, Biostatistics	Definition of Hypothesis	0-12
4	Epidemiology	Research design	0-12
5	Biostatistics	Sampling, methods of data collection, processing	0-13
6	Biostatistics	Analysis	0-13
7	Biostatistics	Hypothesis testing	0-13
8	Epidemiology	Formalization of results (thesis or article or presentation)	0-13
	Total scores	Maximum scores is 100	0-100

Maximum scores for the task are 100 points

### Final assessment of the exam:

Letters assessment	Numerical assessment	Scores (%)	Traditional assessment	Requirements
A	4,0	95-100	Perfect	Full understanding of course topics. Using cognitive, systemic and functional competencies. Critical thinking, analysis, application of knowledge and skills.
A-	3,67	90-94		
B+	3,33	85-89	Good	Understanding of course topics with few inaccuracies. Using cognitive, systemic and functional competencies Standard critical thinking, analysis and application of knowledge and skills.
B	3,0	80-84		
B-	2,67	75-79		
C+	2,33	70-74		
C	2,0	65-69	Satisfactory	Incomplete understanding of course topics. Student does not using cognitive, systemic and functional competences to the full extent. Standard critical thinking, poor analysis and incomplete application of knowledge and skills.
C-	1,67	60-64		
D+	1,33	55-59		
D-	1,0	50-54		
FX	0,5	25-49	unsatisfactory	Lack of understanding of course topics. Student does not using cognitive, systemic and functional competencies. There is no critical thinking, poor analysis and application of knowledge and skills.

### References:

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