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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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 heath 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

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

Sem 7. Fundamentals of surveillance. Sanitary and epidemiological regime in medical and preventive organizations.
Sem 8. Introduction to Biostatistics. Types of variables. Types of distribution, descriptive statistics. Databases (Excel, SPSS).
Sem 9. Types of statistical hypotheses. Hypothesis testing. P-value. Standard error and confidence interval.
Sem 10. 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).
Sem 11. Parametric Tests (T-tests, ANOVA). Normal distribution. Non-parametric tests (Mann-Whitney U-test)
Sem 12. Non-parametric Tests (Mann-Whitney U-test, Wilcoxon U-test, Kruskal-Wallis Test, Friedman Test.
Sem 13. Correlation (Pearson and Spearman) and regression. Survival analysis Log-rank test.
Sem 14. Systematic review and meta-analysis. Evaluation of clinical protocols and recommendations. GRADE.
Sem 15. Presentation of scientific projects.

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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" Combined No. 3: 2-stage: Testing (30 questions) at the first stage and case studies at the second stage during 2 days in the Moodle LMS .

First stage: testing for 60 minutes.

1. 30 minutes before the start, students must prepare for the exam in accordance with the requirements of the proctoring instruction.

2. Go to the LMS MOODLE, find your subject and tests.

3. The number of test questions is 30 per 1 student, 60 minutes are given to complete.

Second stage: case study, individual assignment.

1. Study the topics of the instructor's case study.

2. Perform the task within 3 hours.

3. Load the completed work on the case study into the LMS Moodle, for this:

4.1 students log into the Moodle LMS,

4.2 open the element "Final exam in the discipline",

4.3 select the item "Add answer to the task",

4.4 upload their works in the file upload field,

4.5 click "Save".

The form of the final control (exam):
WRITTEN - STUDY CASE

The form holding the final control (exam) *.	Use weary platform m	For whom recommended	Availability proctoring, video recordings, check for plagiarism	Opportunity automatic generating tickets / questions	how carried out check works
1 STAGE: TESTING	LMS Moodle	Bachelors of School of Medicine	Proctoring yes	Yes	Generation of results

2 STAGE: WRITTEN: – CASE STUDY	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 can provide opportunity checks work with 1 attempt (configures in system teacher).	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

Stage 1 Evaluation Policy - Testing

Test questions are grouped to assess students in three areas: to determine cognitive competencies, system competencies and functional competencies (memorization, understanding and application).

Question direction	Types of question	Competency level
Cognitive competencies oriented questions	Definition of core functions, classification and concepts in epidemiology, biostatistics and evidence-based medicine.	Ability to substantiate the definition.
System competencies oriented questions	Analysis of the studies results.	Ability to analyze the results obtained.
Functional competencies oriented questions	Making solutions to health problems.	Ability to identify problems in health care and clinical medicine.

Maximum scores for the test are 50 points

Stage 2 Evaluation Policy: Case Study

Steps	Parts of case study	Tasks to case study	Scores
1	Epidemiology	Descriptive assessment of the epidemiological situation: what, where, when, who is involved.	0-5
2	Epidemiology	Measuring the incidence of diseases, calculating intensive indicators, proportions and ratios.	0-5
3	Epidemiology	Definition of outbreak (epidemic), confirm with results.	0-5
4	Biostatistics	Definition of data, distribution.	0-5

5	Biostatistics	Measuring the frequency of quantitative and qualitative data.	0-5
6	Biostatistics	Hypothesis testing	0-5
7	Evidence-based Medicine	Analysis of the situation by PICOT.	0-5
8	Evidence-based Medicine	Formulation of a clinical or research question.	0-5
9	Evidence-based Medicine	Conducting a literature search by key words and choosing a publication on the topic of the case study.	0-5
10	Conclusion	Generalization of the results.	0-5
	Total scores	Maximum scores is 50.	0-50

Maximum scores for the test are 50 points

Final assessment of the two stages of the exam:

Letters assessment	Numerical assessment	Scores (%)	Traditional assessment	Requirements
A	4,0	95-100	Отлично	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	Хорошо	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	Удовлетворительно	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	Неудовлетворительно	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.

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