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

EDUCATION PROGRAMME 6B10103 GENERAL MEDICINE

8 credits

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PROGRAM
OF THE FINAL EXAM ON COURSE "PATIENT AND SOCIETY"
8 credits

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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 is an assessment of practical skills for understanding the epidemiology of diseases and 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 holdings, comprehension, and application tests).
Skills: PBL - case study: on epidemiology, biostatistics, and evidence-based medicine.
This exam: Group creative task. Thematic content covers all types of work: topics of lectures and seminars, as well as assignments for students' independent work.

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 allows to critically evaluate medical information for rational use in further practice;
4. Apply exposure-oriented knowledge of disease epidemiology to assess various external environmental factors in the 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 are 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 the need for continuous professional training and improvement of their knowledge and skills.
11. Demonstrate skills in conducting scientific research, desire for new knowledge, and transfer it to others.
12. Apply knowledge and skills of population 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.

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List of examination items for preparation to the exam

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Sem 1. Introduction to Epidemiology
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. Introduction to scientific research.
Sem 6. Fundamentals of Evidence-Based Medicine and 5 Stages of Evidence-Based

Medicine.	
Sem 7. Search and critical analysis of scientific medical publications.	
Sem 8. Fundamentals of surveillance. Sanitary and epidemiological regime in medical and preventive organizations.	
Sem 9. Introduction to Biostatistics. Types of variables. Types of distribution, descriptive statistics. Databases (Excel, SPSS).	
Sem 10. Formation of the database and description of research methods.	
Sem 11. Types of statistical hypotheses. Hypothesis testing. P-value. Standard error and confidence interval.	
Sem 12. 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 13. Parametric Tests (T-tests, ANOVA). Normal distribution. Non-parametric tests (Mann-Whitney U-test)	
Sem 14. Non-parametric Tests (Mann-Whitney U-test, Wilcoxon U-test, Kruskal-Wallis Test, Friedman Test.	
Sem 15. Correlation (Pearson and Spearman) and regression. Survival analysis Log-rank test.	
Sem 16. Systematic review and meta-analysis. Evaluation of clinical protocols and recommendations. GRADE.	
Sem 17. Diagnostic and screening tests.	
Sem 18. 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" This is one stage for preparing and writing a thesis or an article according to 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 an answer to the task."
   - upload their works in the file upload field.
4. click "Save" for results of research.

The form of the final control (exam):
WRITTEN – CREATIVE TASK

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: –group 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 by using the service: Anti-plagiarism. 1 PTS check for 1 job. Anti-	No	1. Teacher gets ready files/responses in LMS Moodle. 2. The teacher evaluates work and conducts checks for availability plagiarism. 3. The teacher exhibits points in

			plagiarism systems can provide opportunities to work with 1 attempt (configured in the system teacher).		LMS Moodle. 5. The teacher transfers points in statements of Univer.

General evaluation Policy

The exam is directed to assess four areas: cognitive competencies, system competencies, functional competencies (memorization, understanding, 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 a research question using the 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 score 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. The student does not use cognitive, systemic, and functional competencies 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. The student does not use cognitive, systemic, and functional competencies. There is no critical thinking, poor analysis and application of knowledge and skills.

References:
1.   Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013.- https://drive.google.com/file/d/1nUfmrzWD-Jw02AzHXEcmjPadgC2AgTjb/view?usp=sharing12. Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012. https://drive.google.com/file/d/0BzjLXzHs114hUWpsUzlMR0poNEU/view?usp=sharing
2.   High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition.-297p.

https://drive.google.com/file/d/1Qh1B6vdUkd-OA7dS1jJCiG1ZeQXxvBKr/view?usp=sharing

3.   Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017.-229p.
https://drive.google.com/file/d/1t2HByO_ybBomAH_Z8HhmP3rSJxewwKBC/view?usp=sharing

4.   Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014.

5.   Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856   p.https://drive.google.com/file/d/1EqPlTfyovqpb930pfCYt-zIKYYPE5-TG/view?usp=sharing

6.   Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p.

7.   Epi Info for windows// www.cdc.gov/epiinfo /pc. html

8.   Evidence-Based Medicine. How to Practice and Teach EBM (3rd Edition).S.E. Straus, W.S. Richardson, Paul Glasziou, R. Brian Haynes.

9.   Literature Reviews in Social Work. Robin Kiteley and Christine Stogdon.- 2014.-20 p.
https://drive.google.com/file/d/1Ybiea7gwaJD25RzlcNvH-m8j0wk27Cmd/view?usp=sharing

10.   Evidence-Based Answers to Clinical Questions for Busy Clinicians Work book.- 2009.-26p.
https://drive.google.com/file/d/1F8UIXlusu6FjRejtotQG6VisGUBDL9Br/view?usp=sharing

11.   APPRAISAL OF GUIDELINES FOR RESEARCH & EVALUATION II. The AGREE Next Steps Consortium.-May 2009.-52 p.

12.   Essentials of Evidence-based Clinical Practice. Second Edition.-2008.-349 p.
https://drive.google.com/file/d/1FykOXyFhsSp4UQROJQvwsknHvrKxFgMQ/view?usp=sharing