MEDICAL UNIVERSITY OF KARAGANDA

THE PROGRAM OF THE ENTRANCE EXAM TO THE DOCTORAL PROGRAM
8D10139 – PUBLIC HEALTH
Direction of training: scientific and pedagogical, profile

KARAGANDA 2023

The program of the entrance exam to the doctoral program of the educational program 8D10139 – "Public Health" is compiled on the basis of standard programs in the disciplines "Biostatistics", "Organization and management of health care".

The developers of the entrance exam program are the Department of Computer Science and Biostatistics, the School of Public Health.

Reviewed and approved at the meeting of the Council of the Institute of Life Sciences

"12" 04. 2023 Protocol No. 6

Chairman of the Council _____ Klyuev D.A.

Approved at the meeting of the Senate of the NAO "MUK" "___" May 2023 Protocol No.__

1. The purpose of the entrance exam is to determine the level of compliance of applicants to the doctoral program of the educational program 8D10139 – Public Health with the criteria determined by the admission committee of the MUK in accordance with the requirements of the state mandatory standard of education.

2. Tasks
The entrance exam to the doctoral program consists of passing a test on the profile of the educational program "Public Health" and an interview.
The program of the entrance exam includes the fundamental topics of the disciplines "Biostatistics", "Organization and management of healthcare".

3. Dates of the event:
August of the current year

4. Content of the entrance exam program
The program of the entrance exam includes questions of the main sections of the following disciplines:

Discipline "Biological statistics"	
№	**Content of the discipline**
1	Descriptive statistical characteristics of random variables (mean, confidence interval of the mean, median, mode, variance, standard deviation, standard error of the mean, span, upper quartile, lower quartile, interquartile span, coefficient of variation, coefficient of asymmetry and kurtosis) Graphical representation of data (histogram, box with mustache, scatter plot, pie chart). Checking the distribution of a quantitative random variable. Parametric (Student's t-test for independent and dependent samples, one-factor, two-factor analysis of variance) and nonparametric (Mann Whitney's U-test, Wilcoxon's T-test, X2pirson, X2pirson with Yates correction, Fisher's exact criterion, McNemar's criterion,) criteria for testing statistical hypotheses. Correlation analysis (Pearson correlation coefficient, Spearman correlation coefficient). Regression analysis (simple and multiple linear regression).

Discipline "Organization and management of healthcare"	
№	**Content of the discipline**
2	Public health and its determining factors. Legal basis of health protection. Health policy. The quality of medical care. Types and stages of organization of medical care. Organization of primary health care. Organization of inpatient care. Organization of specialized medical care. Organization of medical and social prevention. Social and medical insurance. OSMOSIS in Kazakhstan. Healthcare systems and models. Health economics. The healthcare services market. Planning in healthcare. Financing of healthcare.

5. Interview evaluation criteria
5.1. Level of motivation, leadership qualities, degree of interest in learning according to the chosen educational program (from 1 to 30 points)

5.2. The level of professional competence / experience / knowledge in the field of research, willingness to conduct research (from 1 to 60 points)
5.3. The level of English for communication in the professional community, participation in professional discussions, publication of research results (from 1 to 10 points)

6. The rules of the entrance exam
6.1. The entrance exam to the doctoral program is conducted in a computer format.
6.2. The duration of the entrance exam is 1 hour, during which the applicant passes a test in disciplines consisting of 100 questions. The list of questions is formed in random order.
6.3. The interview for doctoral studies is conducted on the basis of the Medical University of Karaganda.

7. List of recommended literature
Disicipline "Biological statistics":
basic:
1. Gerasimov A.N. Medical statistics studies.manual / A. N. Gerasimov. - M. : Med.inform. agency, 2007. - 480 p.
2. Bryan Kestenbaum «Epidemiology and Biostatistics. An Introduction to Clinical Research»: Springer. – 2009. - 242 p. (http://link.springer.com/book/10.1007%2F978-0-387-88433-2)
3. Mark Chang «Modern Issues and Methods in Biostatistics»: Springer. – 2011. - 307 p. (http://link.springer.com/book/10.1007%2F978-1-4419-9842-2)
4. http://www.biometrica.tomsk.ru / Website of biostatistics in medicine and biology
additional:
1. Biostatistics : a textbook / B. K. Koichubekov. - Almaty : New book, 2018. - 152 p.
2. Koichubekov, B. K. "Fundamentals of statistical analysis of biomedical data": Textbook-method.manual/KGMA; B.K. Koichubekov.-Karaganda: KSMAA, 2006. -52s.
3. Mathematical and statistical processing of medical research data : scientific edition / V. I. Junkerov, S. G. Grigoriev, M. V. Rezvantsev. - 3rd ed., supplement - St. Petersburg: VMedA, 2011. - 318 s
4. Informatics and medical statistics : textbook / ed. G. N. Tsarik. - M. : GEOTAR-Media, 2017. - 304 p
5. Petri, And "Visual statistics in medicine": Textbook.manual/A. Petri, K. Sabin; Translated from English-M.:GEOTAR-MED, 2nd edition of the translation. and additional, 2009.-144c
6. Kucherenko V.Z. "Application of statistical analysis methods for the study of public health and healthcare": Textbook / ed.Kucherenko, V.Z. - M. : GEOTAR-Media, 2007. - 256 p.
7. How to describe statistics in medicine: a guide for authors, editors and reviewers: trans. from English / T. A. Lang, M. Sesik. - M. : Practical Medicine, 2011. - 480 p.

Discipline "Organization and management of healthcare":
basic:
1. Reshetnikov A.V. Medicine aleumettanu okulygy / A.V. Reshetnikov; kazak tiline audargan A.M. Markabayeva; zhauapty ed. T. K. Rakhypbekov. - M.: GEOTAR-Media, 2015. - 288 b.
2. Kogamdyk densaulyk zhane densaulykty aktau: okulyk / M. A. Boleshov. - Almaty: [B. I.], 2012. - 256 b.
3. Public health: textbook / A. A. Akanov [et al.]. - M.: Literra, 2017. - 496 p.
4. Public health and healthcare, health economics: in 2 volumes: textbook / ed. by V. Z. Kucherenko. - 2nd ed., reprint. and additional - M.: GEOTAR-Media.Vol.1. - 2013. - 752 p., Vol.2. - 160 p.
5. The Code of the Republic of Kazakhstan on the Health of the people and the healthcare system https://online .zakon.kz/Document/?doc_id=30479065#pos=5 ;-158
6. The State program for the development of healthcare of the Republic of Kazakhstan "Densaulyk" https://www.enbek.gov.kz/ru/node/332663
7. Park textbook on preventive and social medicine: textbook / K. Park. - 22nd ed. - Jabalpur : Banarsidas Bhanot, 2013. - 876 p.

8. Fundamentals of public health: a textbook / B. J. Ternok. - 3rd ed. - Chicago: Jones & Bartlett Learning, 2016. - 294 p.
9. Management and economics of healthcare: a textbook/A.I.Vyalkov, V. Z. Kucherenko, B. A. Raizberg; ed. A. I. Vyalkov. - 3rd ed., supplement - M.: GEOTAR-Media, 2013. - 664 p.
10. Management in healthcare: methodological recommendations / N. G. Petrova [et al.]. - M.: MEDpress-inform, 2009. - 256 p.
11. Medical prevention. Modern technologies: guidelines / ed. A. I. Vyalkov. - M. : GEOTAR-Media, 2009. - 232 p.

additional:

1. Primary health care: a monograph/A.A.Akanov, T.S.Meimanaliev. - Almaty: a new book by Ch. 1: Analysis of PHC of developed countries of the world. - 2018. - 212 s
2. Public health and healthcare: textbook / V. A. Medik, V. K. Yuryev. - 2nd ed., ispr. and additional - M.: GEOTAR-Media, 2014. - 608 p.
3. Yeremeyev A.M. Kogamdyk densaulyk zhane densaulyk saktaudyn zhagdailyk yesepter zhinagi: oku-adistemelik kural/A.M. Yeremeyev, R. K. Baigenzheeva, N. M. Kharisova; KSMU. - Kagandy, 2010. - 60 b.
4. Fundamentals of the organization of emergency medical care in the Republic of Kazakhstan / A. A. Dubitsky. - Almaty: new book, 2018. - 304 p.
5. Quality management of medical care: scientific publication / M. A. Tatarnikov. - M.: GEOTAR-Media, 2016. - 304 p.
6. Public health and healthcare of the Republic of Kazakhstan. White paper: monograph / A. Akanov, T. Meimanaliev. - Almaty: new book, 2018. - 80 s
7. Introduction to healthcare management [Text]: textbook / edited by S. B. Buchbinder, N. H. Shanks. - 3rd ed. - Chicago: Jones & Bartlett Learning, 2017. - 676 p.