

**MEDICAL UNIVERSITY OF KARAGANDA**

**PROGRAM OF ENTRANCE EXAMINATION  
DOCTORATION BY SPECIALTY  
6D110100 - MEDICINE**

**KARAGANDA 2019**

The program of entrance examinations for doctoral studies in the specialty 6D110100 - "Medicine" is based on the model programs in the disciplines "Biostatistics", "Epidemiology".

Developers of entrance examinations - Department of Informatics and Biostatistics, Department of Clinical Immunology, Allergology and Microbiology, Department of Biology.

The program of entrance examinations was considered at the meeting of the departments: informatics and biostatistics, biology, clinical immunology, allergology and microbiology

1. The purpose of the entrance exam is to identify the degree of preparedness of people entering the doctoral program for the successful development of the educational program for the preparation of doctoral students in the specialty 6D110100 "Medicine" in accordance with the requirements of the state general educational standard.

2. Tasks

The entrance exam program includes the fundamental topics of the disciplines "Biostatistics", "Epidemiology" and solves the following tasks:

1. Assessment of the degree of theoretical development of the educational professional program with the direction of 6M110100 "Medicine" Master's program based on testing.
2. Assessment of the degree of theoretical development of related disciplines of the educational professional program with the direction of 6M110100 "Medicine" Master's program based on testing.
3. Assessment of the degree of proficiency in English - interview and testing in English in scientific areas of the planned dissertation work and analysis of scientific publications.

**1. Contents of the entrance examination program**

The entrance examination program includes questions of the main sections of the following disciplines:

<b>Discipline "Biological statistics"</b>	
<b>№</b>	<b>Content of the discipline</b>
1	Numerical characteristics of random variables. Graphic representation of data. Confidence interval Parametric and non-parametric criteria for testing statistical hypotheses. Correlation analysis. Regression analysis. Dispersion analysis. The method of standardization, its meaning and application. Tools for processing statistical data. Analysis of the use of statistical methods in articles and dissertation research.

<b>Discipline "Epidemiology"</b>	
<b>№</b>	<b>Content of the discipline</b>
1	Definition and history of epidemiology. Describe the population in terms of time, person and place. Epidemiological study designs - observational and intervent. Validity and accuracy of epidemiological studies. Clinical epidemiology. The study of outbreaks of infection in the epidemiological focus. Epidemiology of the environment and workplaces (occupational diseases). Epidemiological surveillance of the disease. Epidemiology of occupational and occupational disease-related occupational factors.

**1. List of recommended literature**

**Discipline "Biological statistics":**

**main:**

1. Gerasimov A.N. Medical statistics ucheb.posobie / 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.biometrika.tomsk.ru/> Сайт биостатистики в медицине и биологии

**additional:**

1. Biostatistics: a textbook / B. K. Koychubekov. - Almaty: New book, 2018. - 152 p.
2. Koychubekov, B. K. "Fundamentals of statistical analysis of biomedical data": Textbook.-method.book / KSMA; B.K. Koichubekov.-Karaganda: KSMA, 2006.-52s.
3. Mathematical-statistical data processing of medical research: scientific publication / V.I. Yunkerov, S.G. Grigoriev, M.V. Rezvantsev. - 3rd ed., Ext. - SPb. : Military Medical Academy, 2011. - 318 seconds
4. Informatics and medical statistics: study guide / ed. G. N. Tsarik. - M.: GEOTAR-Media, 2017. - 304 with
5. Petri, A "Visual statistics in medicine": Textbook. / A. Petri, K. Sabin; Per. from English. - M.: GEOTAR-MED, 2nd edition rer. and dopol, 2009.-144c
6. Kucherenko V.Z. "Application of statistical analysis methods for studying public health and public health": Proc. allowance / ed.Kucherenko, VZ - M.: GEOTAR-Media, 2007. - 256 p.
7. How to describe the statistics in medicine: a guide for authors, editors and reviewers: Per. from English / T. A. Lang, M. Sesik. - M.: Practical medicine, 2011. - 480 p.

**Discipline "Epidemiology":**

**main:**

- 1) Lex M. Bouter, A.Zielhuis, P.A. Zeegers. Textbook of epidemiology. Houten 2018
- 2) Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioral, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systemic analysis for the Global Burden of Disease Study 2015. Lancet, 2016; 388(10053):1659-1724.
- 3) Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioral, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015:
- 4) A systemic analysis for the Global Burden of Disease Study 2015. Lancet, 2016; 388(10053):1659-1724.
- 5) Textbook of Global Health 2017.Annie-Emanuelle Birn, Yogan Pillay, and Timothy H. Holtz
- 6) Epidemiologic Principles and Food Safety. 2007 Tamar Lasky
- 7) Exercises in Epidemiology: Applying Principles and Methods. 2016 Noel S. Weiss
- 8) Principles & Practice of Public Health Surveillance: 2010 Lisa M. Lee, Steven M. Teutsch, Stephen B. Thacker, and Michael E. St. Louis

**additional:**

1. Pokrovsky N.I. General epidemiology with the basics of evidence-based medicine: a training manual. - 2nd ed., Corr. and add. - M.: GEOTAR-Media, 2012. - 496 p.
2. Yushchuk ND, Martynov Yu.V., Kukhtevich EV, Grishina Yu.Yu. Epidemiology of infectious diseases. Tutorial. - 3rd ed., Pererab. and add. - M.: GEOTAR-Media, 2014. - 496 p.