

**APPROVED**

**at a meeting of the Academic Council of  
NJSC «KazNU named after al-Farabi»  
Protocol № 11 from 23. 05. 2025 y.**

**The program of the entrance exam for applicants to the PhD  
for the group of educational programs «D151 – Nursing»**

**I. General provisions**

1. The program was drawn up in accordance with the Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 600 «On Approval of the Model Rules for Admission to Education in Educational Organizations Implementing Educational Programs of Higher and Postgraduate Education» (hereinafter referred to as the Model Rules).

2. The entrance exam for doctoral studies consists an exam in the profile of a group of educational programs and an interview.

Блок	Баллы
1.Exam according to the profile of the group of the educational program	100
Total admission score	100/75

3.The duration of the entrance exam is 2 hours, during which the applicant answers the electronic examination ticket.

**II. Procedure for the entrance examination**

2. The electronic examination card consists of 3 questions

Topics for exam preparation according to the profile of the group of the educational program:

**Block 1 (project management in nursing, public health)**

1. What do you mean by the term "Quality of life".
2. Expand the Concept of forming a healthy lifestyle.
3. Globalization and its impact on health.
4. Subject, purpose and objectives of public health and health care.
5. Mechanical movement of the population and the modern characteristics of its components.
6. Traumatism as a medical and social problem.
7. HIV infection as a medical and social problem.

8. Features of the health of the population of the Republic of Kazakhstan at the present stage (morbidity, disability, fertility, mortality, average life expectancy).
9. Social health insurance, its principles.
10. The social significance of diseases of the circulatory system, the organization of specialized medical care.
11. Basic principles of organizing medical and preventive care for the population.
12. Conditions and factors that determine the health of the population.
13. Diabetes mellitus as a medical and social problem.
14. Infectious diseases as socially significant diseases. Organization of medical care.
15. Explain the reasons for the increase in patient complaints and lawsuits for medical care. Justify the ways and mechanisms of their settlement.
16. Determine the main indicators reflecting the clinical effectiveness of treatment
17. Using the example of arterial hypertension, create a model for the analysis of the "cost of illness"
18. What changes need to be made to improve the condition of the local medical service.
19. Globalization and its impact on health.
20. Name the types of medical examinations.
21. Basic concepts of project management in nursing
22. The structure of project management in a medical organization
23. Project life cycle: phases and stages
24. Project management processes in the clinic
25. Purpose of formal project initiation
26. Project planning in nursing
27. Network diagrams: construction, calculation, optimization
28. Project Calendar Schedule (Gantt Chart)
29. Quality management: role in the project, tools
30. Key conditions and main steps for implementing project management in nursing

## **2 block. (Basics of Evidence-Based Medicine in Nursing)**

1. Describe the determinants of public health, levels of health.
2. What is an applied question, basic question, definitions, differences.
3. Randomized controlled trials.
4. History and world experience in the development of evidence-based medicine
5. Concept of research design in nursing.
6. Traditional hierarchy of evidence
7. Levels of evidence in nursing
8. Ethical issues in evidence-based nursing and evidence-based nursing practice, strategies and methods of promotion.
9. Role and rights of patients in scientific research
10. Clinical guidelines in nursing and quality assessment.

11. Medical audit. Models of organizational change and overcoming barriers to implementation in practice.
12. Describe the sequential stages of the process of developing, making and implementing decisions
13. Describe evidence-based medical electronic databases.
14. What are the current requirements for clinical trials.
15. Clinical trials, concept, classification, design of clinical trials.
16. Assess the Placebo effect. Aims of placebo use in clinical trials.
17. Describe meta-analysis: concept, advantages and disadvantages.
18. What are the principles of evidence-based medicine in the creation of clinical practice guidelines.
19. What are the requirements for the development of clinical practice guidelines.
20. Basic provisions of evidence-based nursing practice.
21. Literature search technology for evidence-based nursing practice.
22. Fundamentals of statistics for nurses.
23. Introduction of evidence-based medicine and evidence-based nursing practice.
24. The role and content of nursing research.
25. Evidence-based nursing practice. Quantitative and qualitative research.
26. Evidence-based nursing practice: defining and asking the question.
27. Evidence-based nursing practice. Study of the influence of harmful factors on human health.
28. Evidence-based nursing practice. Assessment of the reliability of the results.
29. Methods of formulating questions in nursing research.
30. Evidence-based nursing practice. Assessment of the reliability of diagnostic methods.

### **3 block. (Fundamentals of Research Methodology)**

1. Logic and methodology of experimental research work. Concept, essence, types of scientific research.
2. Forms and methods of research in medicine. The essence of fundamental and applied research.
3. New research strategies. Interdisciplinarity and principles of synergetics.
4. Organization of research activities: structure, features, criteria.
5. Stages of research work - planning, organization and implementation. Methods for conducting empirical research.
6. Searching for a problem and formulating a hypothesis. Literary research.
7. Search systems and databases of scientific and technical information. The choice of the topic of research work.
8. Drawing up a research program, methodological and procedural sections of the research. Planning and execution of an experimental (empirical) study.
9. Methods of statistical data processing.
10. Expand the schedule of any project, illustrate it using a Gantt chart.

11. Describe the types of research and their classification. State the goals of medical research.
12. Expand international legislation in the field of science. Describe existing international organizations and international acts in the field of ethical and legal regulation of biomedical research.
13. Expand the national legislation in the field of science. Regulatory legal, programmatic and strategic documents in the field of medical science.
14. Formulate the concept of "scientific project", describe the characteristics of the project and its properties. Give a short summary.
15. Expand the methodology and design of the research project. Describe typical health research designs.
16. Expand the main types of research errors and characterize them.
17. Publications in peer-reviewed journals, reveal the general rules for writing articles. What you need to think about before writing an article for a magazine.
18. Demonstrate the main functions of a project manager and describe the main tasks of project planning.
19. Define good practice and explain how quality assurance of the research process is conducted. Describe the prerequisites and requirements.
20. Justify the determination of the size and selection of the sample. Types of samples. Planning statistical processing methods.
21. Expand interpersonal skills to describe a group of execution processes during project implementation.
22. Using elements of corporate culture and style, describe the interaction of the project manager with the project customers.
23. List and describe the main social functions of science.
24. Search for sources of funding for research projects.
25. International scientific foundations, main goals and objectives of foundations, basic principles of functioning, priority areas of activity.
26. Indicate the role and importance of science in the life of a modern person and society.
27. Protection of intellectual property. International patenting. Discoveries, inventions.
28. Protection of intellectual property. Rationalization proposals.
29. Protection of intellectual property. Copyright certificates. License.
30. Ethics of scientific research. Plagiarism. Responsibility for non-compliance with ethical principles.

## **Recommended reading list**

### **Main:**

1. Раманкүлова А.А. Биологиялық статистика. Оқу құралы. Алматы: «Ақнұр», 2016.
2. И.А. Наумов, Е.М. Тищенко, В.А. Лискович, Р.А. Часнойт  
Общественное здоровье и здравоохранение: учебник в 2 ч. Ч. 1 /; под ред. И.А. Наумова. -Минск: Выш. шк., 2013. -335 с. : ил.

3. Б.А. Поляков [и др.]. Организация медицинской помощи (методические и научно-практические аспекты) : учебно-методическое пособие к практическим занятиям / -Иваново, 2014.-168 с
4. Глушанко, В.С. Общественное здоровье и здравоохранение: пособие В.С.Глушанко. 2-е изд. Витебск: издательство ВГМУ, 2011 г., 491 с.
5. Петри А. Сэбин К. Наглядная медицинская статистика. Перевод с английского под редакцией Леонова В.П. Учебное пособие для вузов. М.:«ГЭОТАР-Медиа», 2010г.
6. Применение методов статистического анализа для изучения общественного здоровья и здравоохранения. Под редакцией чл.-корр. РАМН, проф. Кучеренко В.З. Учебное пособие. М.: «ГЭОТАР-Медиа», 2011г.
7. Т. Гринхальк. Основы доказательной медицины. Пер. с англ. – М.: ГЭОТАР-Медиа, 2004. – 240 с.
8. Умарова С.У., Енсегенова З.Ж. Доказательная медицина в клинической практике - Алматы, 2009. – стр. 47 (Электронная версия учебного пособия)
9. Ежегодный сборник данных по здравоохранению «Мировая статистика здравоохранения», 2013 г. ВОЗ, 2014. – 170 с.
10. Государственная программа развития здравоохранения «Денсаулык» на 2016-2019 гг.
11. Carter M. Designing Science Presentations: A Visual Guide to Figures, Papers, Slides, Posters, and More, Academic Press, 2013.
12. Торосян В.Г. История и философия науки: учебник для вузов. — М., 2012.
13. Юшков А.В. Основы планирования научных исследований. Казак университеті, 2004

### **Additional**

1. Кодекс о здоровье народа РК, 2009 г.
2. Общественное здоровье и здравоохранение : руководство к практическим занятиям : учеб. пособие / В. А. Медик, В. И. Лисицын, М. С. Токмачев. -М. : ГЭОТАР-Медиа, 2012. -400 с. : ил.
3. Общественное здоровье и здравоохранение : учеб. для студентов / Ю. П. Лисицын, Г.Э.Улумбекова. -3-е изд., перераб. и доп. -М.:ГЭОТАР-Медиа, 2011.-544 с. : ил.
4. Burcer, Robert E., Leonard Friedeman. Learning books/ Essentials management and leadership in Public Health, 2011
5. Менеджмент в здравоохранении: учеб. пособие / Под ред. М.М. Мухамбекова. – М.: РУДН, 2012. – 372 с.
6. Флетчер Р., Флетчер С., Вагнер Э. Клиническая эпидемиология. Основы доказательной медицины: Пер. с англ./Под общ.ред.Е.Бащинского,С.Ю.Варшавского. – М.:Медиа Сфера, 2000. – 352 с. (Электронная версия учебного пособия)
7. Умарова С.У., Енсегенова З.Ж. Доказательная медицина в клинической практике - Алматы, 2009. – стр. 47 (Электронная версия учебного пособия)

8. Dwan K, Altman DG, Arnaiz JA, Bloom J, Chan AW, et al. (2008) Systematic review of the empirical evidence of study publication bias and outcome reporting bias. *PLoS ONE* 3:e3081 10.1371/journal.pone.0003081
9. Scherer RW, Langenberg P, von Elm E. (2007) Full publication of results initially presented in abstracts. *Cochrane Database Syst Rev* (2):MR000005
10. Glasziou P, Altman DG, Bossuyt P, Boutron I, Clarke M, et al. (2014) Reducing waste from incomplete or unusable reports of biomedical research. *Lancet* 383:267–76. 10.1016/S0140-6736(13)62228-X
11. Boutron I, Dutton S, Ravaud P, Altman DG. (2010) Reporting and interpretation of randomized controlled trials with statistically nonsignificant results for primary outcomes. *JAMA* 303:2058–64. 10.1001/jama.2010.651
12. Cobo E, Cortés J, Ribera JM, Cardellach F, Selva-O'Callaghan A, Kostov B, et al. Effect of using reporting guidelines during peer review on quality of final manuscripts submitted to a biomedical journal: masked randomised trial. *BMJ*. 2011. November 22;343:d6783 10.1136/bmj.d6783
13. Williamson P, Altman D, Blazeby J, Clarke M, Gargon E. (2012) Driving up the quality and relevance of research through the use of agreed core outcomes. *J Health Serv Res Policy* January;17(1):1–2. 10.1258/jhsrp.2011.011131
14. Tenaerts P, Madre L, Archdeacon P, Califf RM. The Clinical Trials Transformation Initiative: innovation through collaboration. *Nat Rev Drug Discov* 2014. November;13(11):797–8. 10.1038/nrd4442
15. National Institutes of Health. Proposed Principles and Guidelines for Reporting Preclinical Research. <http://www.nih.gov/about/reporting-preclinical-research.htm> Last Accessed: Nov 24, 2014.