

«APPROVED»

Member of the Management Board,
Vice-Rector for Operations
NJSC «Al-Farabi KazNU»

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2024



**The program of
the entrance exam for the group of educational programs of the Faculty
of Mechanics and mathematics
Bachelor's degree
for foreign citizens to study on a paid basis**

1. General Provisions

1.1 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 Regulations for admission to studies in educational organization, implementing educational programs of technical and vocational education» (hereinafter – the Standard Rules).

1.2 Entrance exams for bachelor's degree programs consist of two stages:

- ✓ At the first stage, foreign applicants take a test on general education subjects on the respective platform.
- ✓ At the second stage, they undergo testing to determine their proficiency level in the language of instruction.

1.3 The entrance exams are conducted in the form of testing for the following groups of educational programs:

- ✓ 6B05402 – Mathematics
- ✓ 6B055401 – Actuarial Mathematics
- ✓ 6B05404 – Computer Science and Statistics
- ✓ 6B05404 – Mechanics
- ✓ 6B05405 – Mathematical and Computer Modeling
- ✓ 6B07111 – Space Engineering and Technology
- ✓ 6B07110 – Robotics Systems

1.4 In case an international applicant is unable to come to the University to take the entrance exam in the form of testing, they have the opportunity to take it online.

1.5 Selection for admission of international applicants to bachelor's degree programs through testing is assessed on a 100-point scale.

1.6 Following the entrance exam for bachelor's degree programs, a test results sheet is compiled in the established format, which is signed by the management of the Office of Internationalization and Recruitment of Foreign Students.

1.7 Appeals regarding the results of the testing are allowed within 24 hours.

1.8 An appeals commission is established by the rector of al-Farabi Kazakh National University for the period of exams. The appeals commission for admitting international applicants to KazNU includes employees of the Office of Internationalization and Recruitment (hereinafter

referred to as the Office) and the teaching staff of KazNU.

1.9. The decision on admission is reviewed by the competition commission for the enrollment of international applicants and is documented by a protocol through the "Salem office" system.

1.10. Retaking the entrance exam is not allowed.

2. Conducting the entrance exam in 2024

2.1 Testing is conducted in Russian, Kazakh, and English languages, including questions on relevant subjects within the framework of the general education school program.

2.2 An indicative list of topics for entrance exams in the format of testing:

1. Arithmetic calculations
2. Percentage
3. Abbreviated multiplication formulas. Fraction degree
4. Actions with radicals
5. Absolute values
6. Actions with degrees
7. Basic trigonometric formulas
8. Linear equations
9. Quaternary equations
10. Fractional-rational equations
11. Mixed system of equations
12. The concept of a function
13. Sequences
14. Trigonometry
15. Basics of the combination
16. Mechanical movement
17. Mass. Inertia
18. Cosmic velocities
19. Work. Power. Energy
20. Static
21. Conservation laws
22. Pressure
23. Mechanics of liquids and gases
24. Fundamentals of thermodynamics
25. Gas laws
26. Liquid and solid bodies
27. Electrostatics
28. Direct electric current
29. Magnetic field

2.3 List of recommended literature for preparation:

1. Bavrin, I. I. Mathematics for technical colleges and technical schools: textbook and workshop for secondary vocational education / I. I. Bavrin. – 2nd ed., ispr. and add. – Moscow: Yurayt Publishing House, 2019. – 397 p.
2. Shipachev, V. S. Mathematics: textbook and workshop for secondary vocational education

/ V. S. Shipachev ; edited by A. N. Tikhonov. – 8th ed., reprint. and additional – Moscow: Yurait Publishing House, 2019. – 447 p.

3. Bogomolov, N. V. Mathematics. Tasks with solutions in 2 hours. Part 1: a textbook for secondary vocational education / N. V. Bogomolov. – 2nd ed., ispr. and add. – Moscow: Yurayt Publishing House, 2019. – 439c.

4. Bogomolov, N. V. Mathematics: textbook for applied bachelor's degree / N. V. Bogomolov, P. I. Samoylenko. – 5th ed., reprint. and additional – Moscow: Yurait Publishing House, 2019. – 401 p

5. Bogomolov, N. V. Mathematics. Tasks with solutions in 2 hours. Part 2: a textbook for applied bachelor's degree / N. V. Bogomolov. – 2nd ed., ispr. and add. – Moscow: Yurayt Publishing House, 2019. – 320 p.

6. Tatarnikov O. V. Mathematics for economists. Workshop: textbook for academic undergraduate studies / O. V. Tatarnikov [et al.]; edited by O. V. Tatarnikov. – Moscow: Yurait Publishing House, 2019. – 285 p.

7. Trofimova T.I. Course of physics with examples of problem solving: in 2 volumes: textbook / T.I. Trofimova, A.V. Firsov. – M.: KNORUS, 2015. – 584 p.

8. Detlaf A. A. Course of physics: textbook / A. A. Detlaf, B. M. Yavorsky. — 9th ed. erased. — Moscow: Akademiya, 2014. – 720 p.

9. Grabovsky, R.I. Course of physics / R.I. Grabovsky. –St. Petersburg: Lan, 2022. – 608 p.

10. Trofimova, T.I. A short course in physics: a textbook for universities / T.I. Trofimova. – Moscow: Higher School, 2006. -352 p.

11. Saveliev, I.V. Course of general physics: in 3 volumes / I.V. Saveliev. –St. Petersburg: Lan, 2019. – 500 p.

12. Voronov, V.K. Modern physics: a textbook / V.K. Voronov. –Moscow: KomKniga, 2006. – 512 p.

13. Rybakov G.I. Collection of problems in general physics. M.: Higher School, 2009. – 159 p.

3. Criteria for evaluating the entrance exam for admission to the bachelor's program for foreign citizens on a fee-paying basis:

3.1 Selection for admission of foreign applicants to bachelor's degree programs through testing is assessed on a 100-point scale. A minimum of 65 points is required for admission on a fee-paying basis to the bachelor's program.

3.2 At the first stage of preliminary selection for bachelor's degree programs, applicants take a test covering materials on general education disciplines related to the chosen specialty. The test consists of 100 questions (20 questions per test, with 5 points awarded for each correct answer).

3.3 To pass the test successfully, a foreign applicant must correctly answer at least 13 out of 20 questions, which is equivalent to 65%, regardless of the language chosen for testing.

3.4 At the second stage of selection for bachelor's degree programs, applicants take a language proficiency test:

✓ For programs with English as the language of instruction, applicants must correctly answer at least 21 out of 30 questions, which is equivalent to 70%.

✓ For programs with Russian or Kazakh as the language of instruction, applicants must correctly answer at least 15 out of 30 questions, which is equivalent to 50%.