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 Department 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 Department of Internationalization and Recruitment

(hereinafter referred to as the Department) 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 2025

2.1. Testing is conducted in Russian, Kazakh and English, with the inclusion of questions on the relevant core subjects (mathematics/physics) within the framework of the comprehensive school program (bachelor's degree programs on the website https://welcome.kaznu.kz/ru/26848/page).

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 The selection for admission of a foreign applicant to bachelor's degree programs according to the testing format is assessed on a 100-point system. When enrolling on a fee-paying basis in a bachelor's degree program, the results of the first stage of testing of 65 points (65% and above) and the results of testing to determine the level of a foreign language (English 70%, Kazakh 50% and above) are counted.

3.2 At the first stage of preliminary selection for bachelor's degree programs, a test is taken, which includes materials on knowledge of general education disciplines of the chosen specialty and consists of 100 questions (20 questions in the test, 5 points for each correct answer).

3.3 To successfully pass the test, a foreign applicant must correctly answer at least 13 questions out of 20, which is 65 points and, accordingly, 65%, choosing any of the proposed languages for testing.

3.4 At the second stage of selection for bachelor's degree programs, a test is taken to determine the level of a foreign language:

☐ for educational programs with English as the language of instruction, it is necessary to correctly answer at least 21 questions out of 30, which is 70%;

☐ for educational programs with Russian or Kazakh as the language of instruction, it is necessary to correctly answer at least 15 questions out of 30, which is 50%.