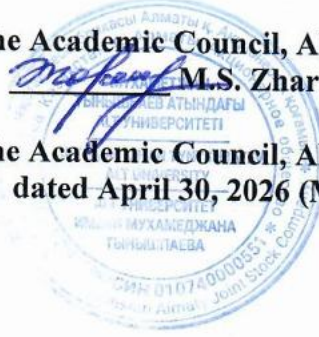


ALT University named after Mukhamedzhan Tynyshtayev JSC

APPROVED

Chairperson of the Academic Council, ALT University
 **M.S. Zharmagambetova**

Decision of the Academic Council, ALT University
dated April 30, 2026 (Minutes No. 8)



ENTRANCE EXAMINATION PROGRAM
for the Professional Doctoral Program

8D11361 – Organization of Transportation, Traffic, and Transport Operation

D147 Transport service

Almaty 2026

The entrance examination program was discussed and received approval at the meeting of the Department of Transport Services and Business, Minutes No. 7, dated March 20, 2026.

Head of the Department  R.D. Musalieva

The entrance examination program was reviewed and recommended for approval at the meeting of the Council of the Institute of Logistics and Business, Minutes No. 8, dated April 21, 2026.

Chairperson of the Institute Council  K.Z. Daubaev

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1. PURPOSE OF THE ENTRANCE EXAMINATION

The purpose of the entrance examination is to assess the level of theoretical and practical preparation of the applicant for doctoral studies and to evaluate the correspondence of their knowledge, skills, and abilities to the requirements of the chosen field of study.

The entrance examination for the Doctor of Philosophy (PhD) program consists of the following components:

1. An interview with the applicant conducted by the examination commission;
2. Answers to examination questions related to the profile of the educational program group;
3. Submission of a letter of recommendation from an enterprise or organization

2. FORMAT AND PROCEDURES OF THE ENTRANCE EXAMINATION

The duration of the entrance examination is 2 hours and 30 minutes, during which the applicant undergoes an interview and answers questions from an electronic examination ticket consisting of 3 questions. The list of questions is generated in random order. The maximum score for the entrance examination is 80 points: the examination on the profile of the educational program group is worth 50 points, and the interview is worth 30 points.

3. TYPES AND CRITERIA OF ASSESSMENT

3.1 Assessment criteria for answers to electronic examination ticket questions

The examination for the profile of the educational program group includes 3 blocks of questions, where: the 1st question determines the level and consistency of theoretical knowledge; the 2nd question identifies the level of development of functional competencies; the 3rd question is aimed at defining systemic competencies. The maximum number of points is 50.

The electronic examination ticket consists of 3 questions:

Blocks	Nature of the question	Number of points
Question 1	Theoretical — determines the level and consistency of theoretical knowledge.	10
Question 2	Practical question – identifies the degree of development of functional competencies (the ability to apply methods, technologies, and techniques in the subject area).	20
Question 3	Systemic question – identifies a systemic understanding of the subject area under study and specialized knowledge in research methodology (systemic competencies).	20
TOTAL		50

Assessment criteria for answers to electronic examination ticket questions:

Вопрос	Критерии оценивания	Количество баллов
Question 1	Demonstrates knowledge of the core processes within the studied subject area; depth and completeness of the question coverage.	5
	Logically and coherently expresses their own opinion on	3

	the issue under discussion.	
	Possesses command of the conceptual framework and scientific terminology.	2
	Total	10
Question 2	Applies methods, techniques, and technologies to solve problems within the subject area.	7
	Arguments, compares, and classifies phenomena, events, and processes; draws conclusions and generalizations based on practical skills.	7
	Analyzes information from various sources.	6
	Total	20
Question 3	Critically analyzes and evaluates theoretical and practical developments, scientific concepts, and contemporary trends in the development of science.	7
	Critically analyzes and evaluates theoretical and practical developments, scientific concepts, and contemporary trends in the development of science.	7
	Identifies cause-and-effect relationships when analyzing processes, phenomena, and events.	6
	Total	20
	TOTAL	50 points

3.2 Interview evaluation criteria

No.	Criteria	Descriptors	Points
1.	Motivation	Argumentation of motivation for pursuing doctoral studies in the chosen Educational Program and entering a specific university. Vision for professional and personal growth prospects upon graduation.	5
2	Research competence	Possession of research skills and experience necessary for conducting research and development activities within a specific subject area.	10
3.	Creativity	Out-of-the-box thinking, creative and alternative approaches to solving problems and situational tasks.	10
4.	Communication skills	Ability to present one's point of view briefly, representatively, logically, and with sound arguments, drawing generalizations and conclusions. Language proficiency.	5
Maximum number of points			30

3.3 Letter of recommendation from an enterprise or organization

To apply for a professional doctoral program, the letter of recommendation from an enterprise or organization must be prepared on official letterhead, contain specific details, and confirm the company's interest in the applicant's training.

4. CONTENT OF EXAMINATION MATERIALS

4.1 Content of sections by blocks included in the entrance examination

The examination materials for doctoral entrance exams by educational program groups and examination questions related to the profile are available in three languages: Kazakh, Russian, and English.

The topics of the examination questions correspond to selected sections from the curricula of the cycles provided for the educational program groups 8D11361 – Organization of Transportation, Traffic, and Transport Operation

	Наименование дисциплин
1	Methods of managerial decision-making
2	Innovations in transport systems
3	Contractual and commercial work
4	Transport security
5	Modern problems of transportation organization
6	Planning and organization of traffic flows

4.2. Content of Sections by Block for the Entrance Examination

Block 1.

1.1. Systemic Nature of Theoretical Knowledge in the Transportation Process

Introduction, history of development, and the concept of the transportation process. Approaches to problem-solving based on a comprehensive analysis of the entire cargo supply chain and preparation of transport for shipment. Core operations of the transportation system. Goals and objectives of the transport system. Application of mathematical models, control theory, and optimization theory to analyze and improve transportation processes.

1.2. Approaches to Forming Logistics Management Structures Management of transport logistics, planning, organization, and control of cargo transportation to ensure timely and cost-effective delivery. International logistics operations, adaptation of standard methods considering the specificities of different countries, legal regulations, currency risks, and cultural differences. Formation of logistics management structures when selecting an organizational model that optimally meets the company's goals and specific requirements.

Block 2.

2.1. Cargo Transportation Methods and Models by Direction (Industry-Specific)

Introduction to Mathematical Modeling of Traffic Flows: Fundamentals and approaches.

Efficiency of Transport Provision in Logistics Chains: Metrics and optimization strategies. Collaborative Planning, Forecasting, and Replenishment (CPFR) in Supply Chains. The Bullwhip Effect in Supply Chains and Stability Issues: Causes, impacts, and mitigation. Material Flow Service Model Involving Distribution Centers: Structural and operational aspects.

2.2. Integrated Supply Chain Planning. Logistical Approach to the Organizational and Economic Design of Supply Chain Links. Project Management: Principles and applications in logistics. Freight Forwarding Operations for Motor Transport Organizations. Risk Management Systems in Transport Enterprises: Identification, assessment, and control mechanisms.

Block 3.

3.1. Research Methodology and Integrated Planning of Transportation Processes.

Comprehensive Study of the Essence and Factors Determining the Unity of the Transport System. Principles of Modeling the Operation of Transport and Logistics Complexes. Interaction Processes in Transport Hubs: Mechanics and coordination. Key Performance Indicators (KPIs)

for the Quality of Transport Hub Functioning. Comprehensive Assessment of the National Transport Services Market.

3.2. Development of the Transit Potential of the Republic of Kazakhstan in. Transcontinental Transportation. Globalization of International Economic Relations on the Eurasian Continent. Rationale and Justification for Emerging Global Transit Corridors. Development of the Transit and Transport Potential of the Republic of Kazakhstan. Modeling the Interaction of Logistics Processes. International Requirements for Freight Forwarding Services in International Transportation.

4.3 List of Examination Questions

1. Main directions of the chosen research activity
2. Justify the choice of your research topic and object. Evaluate the relevance of conducting research in this direction
3. Modern development trends in railway transport
4. Innovative technologies in transport services
5. Transport safety and security
6. International transport corridors and their significance
7. Evaluation of transport process efficiency
8. Requirements for the organization of passenger transportation
9. Logistics and transport corridors in the railway system
10. Organization of freight railway transportation
11. International standards and railway integration
12. Train movement planning and dispatching
13. Impact of environmental aspects on transport organization
14. Artificial intelligence in the organization of transportation operations
15. Quality management of transport services
16. Fundamentals of transport infrastructure and its development
17. Risk management in the railway industry
18. Digitalization of booking and ticketing processes
19. Transportation using intermodal and combined technologies
20. Development prospects for high-speed and mainline freight traffic

5. RECOMMENDED LITERATURE

5.1 Basic Literature

1. Moroz, S.M., & Rementsov, A.N. (2013). *Methodology of research and development of road transport operation technologies: A study guide*. Moscow: MADI, 216 p.
2. Komkin, A.S., & Loparev, A.A. (2018). *History and methodology of transport science: A study guide for engineering faculty students in the fields of "Operation of transport and technological machines and complexes" and "Agroengineering."* Kirov: Vyatka State Agricultural Academy, 73 p.
3. Suleimenov, T.B., & Arpabekov, M.I. (2012). *Transport logistics (Part II)*. Astana: L.N. Gumilyov ENU, 211 p.
4. Penshin, N.V. (2014). *Organization of transport services and safety of the transport process: A study guide for university students specializing in "Technology of transport processes."* Tambov: TSTU Publishing House, 476 p.
5. Molchanova, O.V., & Plakhotich, I.S. (2019). *Management of freight and commercial work in railway transport: A study guide*. Yekaterinburg: USURT, 183 p.
6. Transport Logistics (Part I): Textbook. // L.N. Gumilyov ENU / T.B. Suleimenov, M.I. Arpabekov - Astana, 2012, - 211 p.
7. Theory of Transport Processes and Systems: Textbook for academic baccalaureate / A.E. Gorev. — 2nd ed., rev. and suppl. — M.: Yurayt Publishing House, 2017. — 217 p.

8. Vitvitsky E.E. Theory of Transport Processes and Systems (Road Freight Transport): study guide: Omsk: SibADI, 2010. - 207 p.
9. General Technical and Economic Course of Railways: Textbook / Ed. by D.A. Macheret – M.: RUT (MIIT), 2017. – 364 p.
10. Economics in Road Transport: study guide / N.V. Napkhonenko; Platov South-Russian State Polytechnic University (NPI). – Novocherkassk: YuRGPU (NPI), 2015. – 169 p.
11. Tereshina N.P., Podsorin V.A., Danilina M.G. Economics of Railway Transport: Study guide – M.: MGUPS (MIIT), 2017. – 262 p.
12. Transport Planning: Formation of Efficient Transport Systems in Large Cities: monograph / Yu.V. Trofimenko, M.R. Yakimov. – M.: Logos, 2013. – 464 p.

5.2 Additional Literature

1. Nerush Yu.M. Logistics: Theory and Practice of Design: Textbook and Workshop / Yu.M. Nerush, S.A. Panov, A.Yu. Nerush. - M.: Yurayt, 2019. - 422 p.
2. Stepanov V.I. Logistics: textbook / V.I. Stepanov. - M.: Prospekt, 2016. - 488 p.
3. Gadzhinsky A.M. Logistics. M.: Publishing and Trading Corporation "Dashkov and Co." - 2016. - 308 p.
4. Miloslavskaya S.V. Transport Systems and Transportation Technologies: study guide / S.V. Miloslavskaya, Yu.A. Pochaev. - M.: INFRA-M, 2017. - 116 p.
5. Troitskaya N.A. Transport and Technological Schemes for Transportation of Specific Types of Cargo: study guide / N.A. Troitskaya, M.V. Shilimov. - M.: KNORUS, 2016. - 232 p.