Joint stock company
«ALT Mukhamedzhan Tynyshpaev University»

APPROVED
by the decision of the AC ALT University from
«27» марта 2025 y. (Protocol №8)
President-Rector
Zharmagambetova M.S.

EDUCATIONAL PROGRAM

Name: 8D11366 Logistics (by industry) (profile area)

Level of training: doctoral studies

Code and classification of training areas: 8D113 Transport services

Code and group of educational programs: D148 – Logistics (by industry)

Date of registration in the Registry: 02.06.2025

Registration number: 8D11300015

Almaty, 2025 y.

CONTENT

1. INFORMATION ABOUT THE REVIEW, APPROVAL AND APPROVAL OF THE PROGRAM, DEVELOPERS, EXPERTS AND REVIEWERS

1 DEVELOPED BY:

ALT Mukhamedzhan Tynyshpaev University, Professor of the Department of «OTOT», Candidate of Technical Sciences — *Izteleuova M.S.*

ALT Mukhamedzhan Tynyshpaev University, Associate Professor of the Department of «OTOT», Candidate of Technical Sciences — *Mussaliyeva R.D.*

Specialist Analyst of the Department of Dispatching transportation Management of «TransCom» LLP, Candidate of Technical Sciences — *Aikumbekov M.N.*

Student of the educational program 8D11362 – Logistics (by industry) — *Arbabaeva V.*

2 EXPERTS:

Candidate of Technical Sciences, Director of the Department of Consulting Services and Communications of "Elim Consulting" LLP, Director of "Kazlogistic Certification" LLP — *Toktamysova A.B*

Deputy Director for Commercial Affairs, «TransConsulting» LLP — *D. Ospanov*

3 REVIEWER:

Candidate of Technical Sciences, assistant Professor School of Transport Engineering and Logistics named after M.Tynyshpaeva, Logistics Department, Satbayev University — *Kiseleva O.G.*

4 REVIEWED AND RECOMMENDED:

Meeting of the AC of the Department «Transportation Services and Business» Protocol No. 1, «17» February 2025 — *Mussaliyeva R.D.*

Meeting of the QAC-EMB of the Institute «Logistics and Business» Protocol No. 7, «20» February 2025 — *Musaeva G.S.*

Meeting of the EMC Protocol No. 4, «20» March 2025 — *Kodzhabergenova A.K.*

5 APPROVED *by the decision of the Academic Council of March 27, 2025 No. 8*

6 INTRODUCED *For the first time*

2. REGULATORY REFERENCES

The educational program has been developed on the basis of the following regulatory legal acts and professional standards:

1. The Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III (with amendments and additions as of June 16, 2025).

2. The National Qualifications Framework, approved by the protocol of March 16, 2016 of the Republican Tripartite Commission on Social Partnership and Regulation of Social and Labor Relations.

3. The sectoral qualifications Framework for Education, approved by the Minutes of the meeting of the Sectoral Commission of the Ministry of Education and Science of the Republic of Kazakhstan on social Partnership and Regulation of social and labor relations in the field of education and science dated November 27, 2019 No. 3.

4. The State mandatory standard of higher and postgraduate education approved by the Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2 (with amendments and additions dated March 04, 2025 No. 90).

5. Qualification directory of positions of managers, specialists and other employees, approved by the Order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated December 30, 2020 No. 553. (with additions and amendments dated June 20, 2024 No. 207)

6. Rules for the organization of the educational process on credit technology of education in organizations of higher and (or) postgraduate education, approved by the Order of the Minister of the Ministry of Education and Science of the Republic of Kazakhstan No. 152 dated 04/20/2011. (with additions and amendments dated March 26, 2025 No. 134).

7. Classifier of training areas with higher and postgraduate education, approved by Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 13, 2018 No. 569 (with amendments and additions as of July 21, 2023 No. 327).

8. Algorithm for inclusion and exclusion of educational programs in the Register of Educational programs of Higher and Postgraduate Education, approved by the Order of the Minister of Education and Science of the Republic of Kazakhstan dated December 4, 2018 No. 665 (with additions and amendments as of December 23, 2020 No. 536).

9. RI-ALT-33 "Regulation on the procedure for developing an educational program for higher and postgraduate education".

10. Professional standard: "Operation of wagons (containers)", National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken", approved by Order No. 256 dated December 20, 2019 (Order No.136 dated September 01, 2023).

11. Professional standard "Teacher", approved by Order of the Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" No. 133 dated June 8 2017

12. Professional standard "Science", a project of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken"

13. Professional standard: "Container transportation", National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken", approved by Order No. 256 dated 20.12.2019 (Order No.136 dated 01.09.2023).

3 PASSPORT OF THE EDUCATIONAL PROGRAM

№	Field name	Note
1	Registration number	8D11300015
2	Code and classification of the field of education	8D113 Services
3	Code and classification of training areas	8D113 Transportation services
4	Code and group of educational programs	D148 - Logistics (by industry)
5	Name of the educational program	8D11366 Logistics (by industry) (profile area)
6	Type of educational program	New
7	Purpose of the educational program	Training of specialists with managerial skills in the field of transport and logistics services for effective operation in the dynamically developing transport and communication sector of the economy of the Republic of Kazakhstan
8	ISCED level	8
9	Level according to the NQF	8
10	Level according to the IQF	8
11	Distinctive features of the EP	No
	Partner University (JEP)	-
	Partner University (Two-degree EP)	-
12	Form of training	Full-time
13	language of education	Kazakh, Russian
14	Volume of credits	180
15	Academic degree awarded	Doctor (PhD)
16	Availability of an appendix to the license for the direction of training	KZ87LAA00036465 от 28.06.2024
17	Availability of EP accreditation	-
	Name of the accreditation body	-
	Validity period of accreditation	-

4 THE GRADUATE'S COMPETENCE MODEL

1. Objectives of the educational program:

1. Development of scientific research: Formation of skills for conducting original research in the field of logistics, including analysis and solution of complex logistical problems.

2. Advanced study of theory and practice: The study of modern theories, methods and technologies in logistics, including supply chain management, transportation and distribution of goods.

3. Innovative technologies: The study and implementation of new technologies and tools such as automation, digitalization and the use of big data in logistics processes.

4. Interdisciplinary approach: Developing skills to integrate knowledge from related fields such as economics, management, information technology and engineering.

5. Scientific publications: Preparation and publication of scientific articles in peer-reviewed journals, participation in conferences and seminars for the exchange of experience and research results.

6. Practical application of knowledge: Development and implementation of projects aimed at solving real problems in the field of logistics, cooperation with enterprises and organizations.

7. Preparation for teaching: Formation of teaching skills and teaching methodology for a future academic career.

8. Ethics and Sustainable development: The study of ethics in logistics and sustainable development, including environmental and social aspects of logistics processes.

These tasks will help to train highly qualified specialists who are able to make a significant contribution to the development of logistics as a science and practice.

2. Assistance in the formation of graduate readiness:

- developing critical thinking skills and an analytical approach to solving logistical problems.
- preparation for the publication of scientific articles and participation in conferences.
- formation of the ability to conduct research:
- the ability to conduct research using scientific methods and tools in the field of logistics.
- development and implementation of scientific projects aimed at solving urgent logistics problems.
- preparation and defense of dissertations reflecting original research and achievements in the field of logistics.
- preparation for professional activity:
- formation of project and team management skills in the field of logistics.

These tasks will help graduates of a specialized doctoral program in logistics to become highly qualified specialists capable of making a significant contribution to the development of the industry.

3. Learning outcomes:

RO 1 - To integrate the principles of critical analysis and synthesis of information, demonstrating mastery of various styles and formats of academic writing

RO 2 – To organize scientific research to solve the tasks set using the research methodology and analyze the data obtained to formulate reasonable conclusions.

RO 3 - To develop conceptual and mathematical models of logistics systems, analyze modeling results to optimize logistics processes

RO 4 - To plan strategic logistics development plans taking into account the specifics of the digital economy with an assessment of the effectiveness of strategic decisions in a dynamic environment

RO 5 - Assess the potential of using innovative technologies to improve the efficiency of supply chain management and develop strategies for their implementation

RO 6 - Synthesize knowledge to develop sound proposals for strategic logistics management using innovative technologies in the digital economy

4. Key professional competencies:

Key professional competencies that can be formed as a result of mastering the educational program of a specialized doctoral degree in logistics may include:

1. Analytical skills: The ability to conduct in-depth analysis of logistics processes and systems, identify problems and find optimal solutions.

2. Scientific research: The ability to develop and conduct scientific research in the field of logistics, including data collection and analysis, hypothesis formulation and interpretation of results.

3. Project Management: Skills in planning, organizing, and controlling logistics projects, including resource and risk management.

4. Innovative technologies: Knowledge of modern technologies and tools used in logistics, such as automation, digitalization and the use of big data.

5. Strategic thinking: The ability to develop and implement logistics strategies, taking into account global and local trends.

6. Communication skills: The ability to effectively interact with various stakeholders, including colleagues, clients, and partners.

7. Ethics and sustainable development: Understanding the ethical aspects and principles of sustainable development in logistics, including social and environmental factors.

8. Interdisciplinary approach: The ability to integrate knowledge from various fields (economics, management, information technology) to solve complex problems in logistics.

These competencies will help graduates to work successfully in various fields of logistics and make a significant contribution to the development of the industry.

5. The field of professional activity may include the following areas:

Scientific research: Graduates can engage in scientific activities in the field of logistics, conducting research aimed at optimizing logistics processes, developing new methods and technologies.

Teaching: The opportunity to work in higher education institutions, teaching students the basics of logistics, supply chain management and other related disciplines.

Consulting: Graduates can provide consulting services to companies, helping them improve logistics processes, reduce costs, and increase efficiency.

Project Management: Work as project managers in the field of logistics, responsible for planning, implementing and overseeing logistics projects.

Data analytics: The use of analytical tools to evaluate and optimize logistics operations, including big data analysis and the application of machine learning methods.

Strategy development: Participates in the development of supply chain and logistics management strategies for companies in various sectors.

Public Administration: Work in government agencies dealing with transportation, distribution, and logistics issues at the regional or national level.

These areas allow graduates to apply their acquired knowledge and skills in various fields, contributing to the development of logistics as a science and practice.

6. Objects of professional activity:

Graduates of the specialized doctoral program in logistics can work in various fields and in various positions. Here are some of them:

1. Scientific institutions:
- researchers at universities and research centers.
- teachers in higher education institutions.

2. State and municipal authorities:
- logistics specialists in government agencies.
- consultants on transport policy issues.

3. Private sector:
- Logistics and supply chain managers in manufacturing and trading companies.
- logistics analysts in consulting firms.

4. Logistics companies:
- project managers in logistics and transportation companies.
- specialists in inventory management and distribution.

5. International organizations:
- Logistics specialists in international organizations and NGOs.

6. IT companies:
- developers of software for logistics process management.

These areas provide ample opportunities to apply the knowledge and skills acquired during the course of training.

7. Types of professional activity:

- research;
- production and technological;
- organizational and managerial;
- design and technological.

8. Functions of professional activity:

1) optimization of the processes of delivery, storage and shipment of goods, organization of cargo delivery with the least financial and time costs;

2) performing work with suppliers and customers, forming and placing an order, drafting and submitting documents to licensing authorities,

3) control and coordination of the warehouse, transport service, preparation of primary documentation, its systematization and the formation of registers;

4) planning and organization of the logistics process in organizations, management of logistics processes in procurement, production and distribution;

5) optimization of the organization's resources related to the management of tangible and intangible flows;

6) evaluation of the efficiency of logistics systems and control of logistics operations.

7) performing works in the field of scientific and technical activities related to design, information services, and technical control;

8) analysis and justification of decisions taken and implemented, search for reserves for reducing the cycle of work, assistance in preparing the process of their implementation

9. List of specialist positions:

Here is a list of possible positions for graduates of a specialized doctoral degree in logistics.:

1. Researcher - conducting research in the field of logistics and related disciplines.
2. A teacher in higher education institutions - teaching students logistics and related disciplines.
3. Logistics Consultant - providing consulting services to companies to optimize logistics processes.
4. Logistics Manager - management of logistics operations in the company.
5. Logistics Process Analyst - analysis and optimization of logistics chains.
6. Project Manager in the field of logistics - project management related to logistics and Supply Chain Management.
7. Inventory Management Specialist - optimization of inventory management and warehouse processes.
8. International logistics expert - works with international supplies and customs procedures.
9. Director of Logistics - strategic management of the company's logistics functions, etc.

These positions may vary depending on the level of education, work experience, and company specifics.

10. Professional certificates obtained upon graduation: not provided.

11. Requirements for the previous level of education: higher engineering education, master's degree in 7M11348 - Logistics (by industry).

Research practice.

The doctoral student's research practice is aimed at developing scientific and research skills among students. As part of this practice, doctoral students conduct independent research: develop and implement research projects that may include both theoretical and practical aspects of logistics; write and publish articles in scientific journals, which helps them consolidate their knowledge and demonstrate the results of their work; establish links with other researchers and organizations, which can lead to joint projects and new opportunities; They analyze existing research and find new approaches to solving problems in the field of logistics. Research practice is a key element of the training of highly qualified specialists in the field of

logistics, contributing to their professional and scientific growth and is conducted at the place of study or in scientific organizations.

Experimental research practice.

Experimental research practice as a form of educational activity, during which doctoral students gain practical experience in conducting scientific research and experiments, includes the development and implementation of research projects, the analysis of data obtained and the formulation of conclusions.

Experimental research practice is aimed at:

1. Acquisition of practical skills: allows doctoral students to apply theoretical knowledge in practice, developing the skills necessary for scientific work.

2. Development of research thinking: promotes the formation of critical thinking and the ability to analyze, which is important for the successful implementation of scientific projects.

3. Preparation for a future career: provides experience that can be useful in an academic environment, scientific institutions or in industry.

4. Deepening knowledge: allows you to deepen your understanding of specific topics and methods related to the field of study.

Thus, experimental research practice is an important stage in the training of highly qualified specialists capable of independent scientific activity.

Educational organizations, companies and enterprises are the bases of experimental research practice.

Its duration is determined by the Curriculum of the educational program in the field of personnel training 8D113- Transportation services.

Experimental research work of doctoral students (AIRD)

The planning of the AIRD in weeks is determined based on the standard working hours of doctoral students during the week. The number of credits allocated for the implementation of the AIRD in a specific academic period is determined by the working curriculum of the professional educational program in the field of personnel training 8D113- Transportation services.

The AIRD should:

Experimental research work of doctoral students should:

1. Develop scientific skills: Doctoral students should be able to conduct independent research, formulate hypotheses, develop methodologies and analyze the results.

2. Contribute to science: Research should be aimed at solving current problems in the field of logistics and related disciplines, which contributes to the development of theory and practice.

3. Preparation for the dissertation defense: The work should be related to the topic of the dissertation research, which ensures preparation for a successful defense.

4. Stimulate innovation: Research should facilitate the introduction of new ideas and technologies into practice, which is important for the development of the industry.

5. Develop critical thinking: Doctoral students should be able to critically evaluate existing research and approaches, which contributes to their professional growth.

6. Collaboration with the scientific community: Participation in conferences, publication of articles and interaction with other researchers help to expand professional contacts and exchange knowledge.

The experimental research work of doctoral students has the following tasks:

1. Expanding knowledge and creating new ones: Expand and deepen knowledge in a chosen field of study and make original contributions to knowledge through research and publication of results.

2. Development of research skills: Develop advanced research skills such as hypothesis formulation, experiment design and data analysis, master research methodologies and tools for independent research.

3. Develop critical thinking: Develop the ability to critically evaluate existing knowledge and identify research gaps, analyze and interpret complex data to form informed conclusions.

4. Strengthening the scientific base: strengthen the scientific base in the chosen field of research by providing new knowledge and methodologies, promote innovation and technological advances.

5. Preparing for Future Careers: Prepare doctoral students for careers in academia, industry, or the public sector, and develop the problem-solving, project management, and communication skills necessary

for success in various professions.

6. Promote collaboration and innovation: promote collaboration between researchers in various fields, promote innovative ideas and approaches to solving complex problems.

7. Improving teaching and learning: Improve the quality of teaching and learning at universities by introducing new knowledge and research methods, and train future researchers and scientists capable of pushing the boundaries of knowledge.

General requirements

Relevance and significance: Research should solve relevant scientific or practical problems.

Scientific validity: Research should be based on existing scientific knowledge and methods.

Novelty: The research must contain new knowledge or methods that have not been previously published.

Feasibility: The study must be completed on time and using available resources.

AIRD composition requirements

Head of the AIRD: must have an academic degree or title, experience in leading scientific research.

AIRD executors: qualified specialists with appropriate training and experience in the field of research.

AIRD consultants: specialists involved in solving specific research issues.

Requirements for the AIRD structure

Title page: the name of the AIRD, performers, supervisor, deadlines.

Abstract: a brief description of the research, goals, objectives, and expected results.

Introduction: substantiation of the relevance and significance of the research, literature review.

Research goals and objectives: Clearly defined goals and objectives that must be achieved during the research.

Research methodology: description of the methods and techniques used, data sources, methods of data processing and analysis.

Expected results: specific results that are planned to be obtained during the study.

The AIRD calendar plan: specifying the deadlines for completing individual stages of the study.

AIRD financial plan: cost estimates, cost justification.

References: sources used in the preparation of the AIRD.

Additional requirements

Patent search: conducting a patent search to identify existing patents and applications for inventions in the field of research.

AIRD Expertise: an independent examination of AIRD to assess its scientific validity, feasibility, and novelty.

Compliance with ethical standards: Research must comply with ethical standards and legal requirements.

Foreign scientific internship.

The purpose of organizing a foreign scientific internship for doctoral students is as follows:

To broaden the scientific horizons: To provide doctoral students with the opportunity to familiarize themselves with advanced research and methods used in international practice.

Establishing international relations: Assistance in establishing contacts with foreign scientists and research groups, which can lead to joint projects and publications.

Professional development: Training in new methods and technologies that can be applied in their scientific activities.

Skills development: Strengthen research and analytical skills, as well as skills of working in an international team.

Participation in conferences and seminars: The opportunity to present their research at international forums, which helps to increase the visibility of their work.

Cultural exchange: Familiarization with the culture and scientific environment of another country, which contributes to personal and professional development.

Thus, an internship abroad is an important element of training highly qualified specialists who are

able to work in the global scientific community.

To organize a foreign scientific internship.

A doctoral student's foreign scientific internship is conducted on the basis of contracts concluded with enterprises/institutions, universities and scientific organizations within the framework of Agreements and Memoranda of cooperation in the field of education and science, as well as on the basis of personal invitations from educational and scientific organizations.

Foreign scientific internship of doctoral students is carried out within the framework of dissertation research at a university and/ or a large research center in the near or far abroad at the place of work of a scientific consultant on a date agreed with him.

In case of non-completion of a foreign scientific internship, the doctoral student is not allowed to take final certification.

Defining the objectives of the internship: what skills and knowledge should be acquired during the internship, what research topics will be relevant for the internship.

Choosing a country and an educational institution.

Search for a supervisor.

Preparation of documents:

Internship financing:

Visa and accommodation arrangements:

Internship program planning:

Evaluation of internship results: After completing the internship, evaluate the acquired knowledge and skills., Prepare an internship report that can be used for further research or publications.

The final certification of a doctoral student is carried out in the form of writing and defending a doctoral dissertation.

The purpose of the final certification of a doctoral student is to assess the level of training and qualifications of the graduate, as well as to test his ability to independent scientific activity. The final certification allows you to:

Evaluate knowledge and skills: check to what extent the doctoral student has mastered the theoretical and practical aspects of his specialty.

To confirm readiness for scientific activity: to make sure that the graduate is able to conduct independent research and contribute to the scientific community.

To determine the level of competence: to evaluate the professional and research competencies necessary for a successful career in logistics or related disciplines.

Prepare for a future career: provide graduates with the necessary knowledge and skills to work in an academic environment, scientific institutions or in the industry.

Thus, the final certification is an important stage in the educational process, which confirms the doctoral student's readiness for professional activity.

5. MATRIX OF CORRELATION OF LEARNING OUTCOMES ACCORDING TO THE EDUCATIONAL PROGRAM WITH ACADEMIC DISCIPLINES/MODULES

№	Name of the discipline	Number of credits	Matrix of correlation of learning outcomes according to the educational program with academic disciplines						
			PO1	PO2	PO3	PO4	PO5	PO6	
1	2	3	4	5	6	7	8	9	
1.	Academic writing	4	+						
2.	Scientific research methods	6		+					
3.	Modeling and simulation of logistics systems	5			+				
4.	Business process modeling	5			+				
5.	Business process reengineering	5				+			
6.	Strategic logistics management in the digital economy	5				+		+	
7.	Innovative supply chain management technologies	5					+		
8.	Research practice	10	+	+	+	+	+	+	
9.	Experimental research work of a doctoral student (AIRD)	123	+	+	+	+	+	+	
10.	Final certification	12							

6. THE STRUCTURE OF THE DOCTORAL DEGREE PROGRAM IN THE RELEVANT FIELD

№№	The name of the cycles of disciplines	Total labor intensity	
		in academic hours	in academic credits
1.	**Cycle of general education disciplines (OED)**		
1)	University component		
	Academic writing	**120**	**4**
	Scientific research methods	**180**	**6**
2)	Component of choice		
	Modeling and simulation of logistics systems	**150**	**5**
	Business process modeling		
2.	The cycle of profile disciplines		
1)	The university component		
	Business process reengineering	**150**	**5**
2)	**Component of choice**		
	Strategic logistics management in the digital economy	**150**	**5**
	Innovative supply chain management technologies		
3.	**Experimental research work of a doctoral student**	**3690**	**123**
4.	**Final certification**		
1)	Writing and defending a doctoral thesis	**360**	**12**
	Total	**5400**	**180**

JSC "ALT University named after Mukhamedzhan Tynyshpaev"

Mode of study: full-time

ACADEMUS PLAN

APPROVED

By decision of the Academic Council of ALT
ALT from "03" March 2025 Protocol No.8

Chairman of the Academic Council

M.S Zharmagambetova

Direction of training: 8D113 - Transport services

Group of educational programs: D148 Logistics industry)

Duration of study: 3 years

Name of the educational program:

8D11366 - Logistics (by industry)

Degree: Ph.D.

Admission: 2025

№	Discipline code	Name of cycles and disciplines	Total labor intensity		Control form, semester		Volume of academic workload, hours						Distribution by semesters						Assignment to the department
								Contact information					1 course		2 course		3 course		
			in academic hours	in academic credits	Exam	KP (kR)	Total hours	lectures	practical	laboratory	SRDP	SRD	1 sem. 15 weeks	2 sem. 7 weeks	3 sem. 15 weeks	4 sem. 15 weeks	5 sem. 15 weeks	6 sem. 15 weeks	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	18	19	20	21
1	THEORETICAL TRAINING																		
1.1.	CYCLE OF BASIC DISCIPLINES (BD)																		
1)	University component		300	10			300	30	45	0	30	195	10	0	0	0	0	0	
1.1.1	23-0-D-VK-AP	Academic writing	120	4	1		120		30		15	75	4						LE
1.1.2	23-0-D-VK-MNI	Scientific Research Methods	180	6	1		180	30	15		15	120	6						RS
	Component of choice		150	5	1	0	150	15	15	0	15	105	5	0	0	0	0	0	
1.1.3	25-D-KV-MSLS	Modeling and simulation of logistics systems	150	5	1		150	15	15		15	105	5						TSB
	25-D-KV-MBP	Business process modeling																	
	TOTAL FOR THE CYCLE OF THE DB		450	15			450	45	60	0	45	300	15	0	0	0	0	0	
1.2.	CYCLE OF PROFILING DISCIPLINES (PD)																		
1)	University component		150	5			150	15	15	0	15	105	5	0	0	0	0	0	
1.2.1	25-0-D-VK-RBP	Business process reengineering	150	5	1		150	15	15		15	105	5						TSB
2)	Component of choice		150	5	1	0	150	15	15	0	15	105	5	0	0	0	0	0	
1.2.2	25-D-KV-SULDE	Strategic logistics management in the digital economy	150	5	1		150	15	15		15	105	5						TSB
	25-D-KV-ITSCM	Innovative supply chain management technologies																	
	TOTAL FOR THE PD CYCLE		300	10			300	30	30	0	30	210	10	0	0	0	0	0	
2)	25-0-D-VK-PP	Industrial practice	600	20	1		600							20					TSB
	Theoretical training		1350	45			1350	75	90	0	75	510	25	20	0	0	0	0	
2	Experimental research work of a doctoral student (EIRW)		3690	123			3690						5	10	30	30	30	18	
1)	25-0-D-VK-EIRD	**Experimental research work of a doctoral student, including an internship and the completion of a doctoral dissertation**	3690	123			3690						5	10	30	30	30	18	
3	Additional types of education (ATE)																		
4	Final assessment (FA)		360	12			360											12	
1)	25-0-D-VK-NZDD	**Writing and defending a doctoral dissertation**	360	12			360											12	
	TOTAL FOR THE ENTIRE PERIOD OF STUDY		5400	180			5400	75	90	0	75	510	30	30	30	30	30	30	

Agreed:

Acting Vice-Rector for AA _____ Kojabergenova A.K.

Developed by:

Director of the ILB _____ Musaeva G.S.

Head of the TUR Department _____ Mussalieva R.D.

8. CATALOG OF DISCIPLINES OF THE UNIVERSITY COMPONENT

EDUCATIONAL PROGRAMS **8D11366 Logistics (by industry) (profile area)**

Ducation level: doctoral studies **Duration of study: 3 years** **Year of admission: 2025**

Cycle	Compo-nent	Name of the discipline	Total labor intensity		term	Learning outcome	Brief description of the discipline	Prerequisites	Post-requisites
			in academic hours	in academic credits					
2	3	4	5	6	7	8	9	10	11
BD	UC	Academic writing	120	4	1	LO1	The objectives of the discipline are: mastering the structural features and requirements for the design of academic and scientific texts. Improve the skills of abstracting and concise presentation of information, writing a bibliographic review. The ability to report scientific achievements to the general public and write scientific articles for publication in international publications.	Master's degree disciplines	Writing and defending a doctoral thesis
BD	UC	Research methods	180	6	1	LO2	Formation of a systematic understanding of theoretical and applied scientific research methods, including planning, organization and implementation of experimental research projects. Modern methods of data analysis and interpretation, information processing technologies, digital tools and approaches based on artificial intelligence, competencies for the preparation of scientific publications, presentation and protection of research results are being mastered. Special attention is paid to the principles of sustainable development, ethical aspects of scientific activity and	Master's degree disciplines	Writing and defending a doctoral thesis

							risk management in the design and implementation of research.		
PD	UC	Business process reengineering	150	5	1	LO4	The discipline studies the redesign of business processes to achieve significant improvements in key performance indicators such as cost, quality, service, and speed. It covers methodologies for analyzing, modeling, optimizing, and implementing new business processes, as well as managing organizational change.	Master's degree disciplines	Writing and defending a doctoral thesis

9. CATALOG OF DISCIPLINES OF THE COMPONENT BY CHOICE

EDUCATIONAL PROGRAMS **8D11366 Logistics (by industry) (profile area)**

Ducation level: doctoral studies **Duration of study: 3 years**

Cycle	Compo-nent	Name of the discipline	Total labor intensity		term	Learning outcome	Brief description of the discipline	Prerequisites	Post-requisites
			in academic hours	in academic credits					
2	3	4	5	6	7	8	9	10	11
BD	EC	Modeling and simulation of logistics systems	150	5	7	LO3	The discipline explores the development and application of models for the analysis and optimization of logistics systems. Covers modeling techniques, including simulation modeling, to evaluate the performance of supply chains, warehouses, transportation, and other logistics processes, helping to make informed management decisions.	Master's degree disciplines	Writing and defending a doctoral thesis
		Business process modeling				LO3	The discipline provides knowledge and ideas about the content of scientific activity, its methods and forms of knowledge. The theoretical and applied knowledge obtained by students on the methods of scientific research of problems in the studied area instills in future specialists the skills of cognitive activity in t	Master's degree disciplines	Writing and defending a doctoral thesis
PD	EC	Innovative supply chain management technologies	150	5	1	LO5	The course is aimed at studying the methods and tools used to analyze, design and optimize business processes in organizations. Students study various notations and approaches to modeling, such as	Master's degree disciplines	Writing and defending a doctoral thesis

							BPMN (Business Process Model and Notation) and UML (Unified Modeling Language). The course covers the stages of the business process life cycle, including their identification, analysis, reengineering and automation		
		Strategic logistics management in the digital economy				LO4, LO 6	The course is aimed at studying methods and tools that allow analyzing and optimizing processes in logistics using mathematical modeling and computer simulation using modeling methods to create models of logistics systems, including a systems approach and queue theory	Master's degree disciplines	Writing and defending a doctoral thesis

EXPERT OPINION
on the educational program of the doctoral program
8D11366 – Logistics (by industry) on profile and experimental orientation

The doctoral program in the field of Logistics (by industry) meets the requirements of third-level specialized education and is focused on training specialized personnel with in-depth theoretical knowledge and practical skills in conducting experimental and applied research in the field of logistics.

The profile of the educational program is determined by its focus on the study and research of multimodal transportation and supply chain management processes using digital platform solutions within the framework of the functioning of international transport corridors. This profile corresponds to modern scientific and industry trends related to the digitalization of logistics, the integration of modes of transport and the development of transit potential.

The educational program provides conditions for conducting experimental research aimed at developing, modeling and testing digital management platforms that ensure end-to-end coordination of transport and logistics processes in international destinations. Within the framework of specialized training, competencies are formed for setting up scientific experiments, analyzing empirical data and forming scientifically sound recommendations for improving the efficiency of transport corridors.

The purpose of the educational program in the context of specialized training is to train doctors of philosophy (PhD) who are able to carry out scientific research and experimental testing of innovative digital solutions in the field of logistics and supply chain management.

The objectives of the educational program include:

- formation of in-depth theoretical and methodological knowledge in the field of logistics, multimodal transportation and digital transport and logistics systems;
- development of research competencies in the field of modeling, simulation and experimental verification of logistics solutions;
- preparation for independent scientific and scientific-pedagogical activities focused on solving applied problems of the development of international transport corridors.

The content of the educational program includes compulsory and elective subjects that ensure the implementation of specialized training and experimental orientation, including: academic writing and publishing, methods of scientific and experimental research, modeling and simulation of transport and logistics systems, digital platforms and innovative supply chain management technologies, management of multimodal transportation on international transport corridors.

A special place in the program is occupied by experimental research practice implemented on the basis of specialized transport and logistics companies, multimodal transportation operators and infrastructure organizations. The practice provides an opportunity to test scientific results and experimental models in real or approximate to real conditions of functioning of transport and logistics systems.

According to the results of the examination, it was established that the educational program of the doctoral program in the field of Logistics (by industry):

- meets the requirements of specialized education at the third level of higher education;

- has a pronounced experimental and research orientation;

- focused on training specialists capable of developing and implementing digital solutions in the field of multimodal transportation and international transport corridors;

- meets modern requirements of science, digital economy and labor market.

The doctoral degree program «Logistics (by industry)» can be recommended for implementation as a specialized program with an experimental research focus, providing training of highly qualified scientific personnel for the transport and logistics industry.

The expert:
Candidate of Technical Sciences, Advisor to the President of the Shyngar Trans Group of Companies, Director of the Department of Consulting Services and Public Relations at Elim Consulting LLP, Director of KAZLOGISTICS CERTIFICATION LLP **Toktamyssova A.**

EXPERT OPINION
on the educational program of the doctoral degree 8D11366 – Logistics (by industry) on the profile and experimental orientation

During the expert analysis of the educational program of the doctoral program 8D11366 – "Logistics (by industry)", it was found that the program was developed in the logic of specialized training of doctors of philosophy (PhD) and is focused on the formation of research and analytical competencies in demand in modern transport and logistics science and practice.

The experimental and research nature of the training is realized by focusing the program on obtaining new scientific results, testing author's models and methodological approaches, as well as introducing digital tools for analyzing and managing transport and logistics processes. The program provides for the development of quantitative and qualitative analysis methods, the use of modeling tools and conducting experimental research within the framework of the thesis.

The objectives of the educational program are aimed at developing doctoral students' ability to independently design and implement scientific research, including setting experimental tasks, interpreting results, and substantiating practical recommendations for the logistics industry.

In the course of their studies, doctoral students solve problems related to:

- analysis and development of theoretical concepts of logistics and management of transport systems;
- development and experimental verification of multimodal transportation models and digital logistics solutions;
- preparation of scientific publications and participation in research and scientific and pedagogical activities.

The structure and content of the educational program are balanced and ensure the implementation of the stated goals of specialized and experimental learning. The curriculum includes disciplines that form the methodological culture of the researcher, the skills of scientific modeling, working with empirical data and using digital technologies in logistics.

A significant element of the program is a research practice focused on cooperation with specialized organizations in the transport and logistics sector. This makes it possible to test scientific hypotheses and experimental developments in an applied context and increases the practical significance of the results obtained.

Based on the results of the examination, it can be concluded that the educational program of the doctoral program 8D11366 – "Logistics (by industry)":

- implements the principles of specialized third-level education;
- provides conditions for conducting experimental and applied research;

- develops scientific competencies that meet the modern requirements of logistics science and the digital economy;

- it is focused on training researchers and teachers of higher education in the field of logistics.

In general, the educational program can be recommended for implementation as a specialized doctoral program with a stable experimental and research orientation that meets the tasks of training scientific personnel for the transport and logistics industry.

The expert:

Deputy Director
for Commercial Affairs
"TransConsulting" LLP

Dastan Ospanov

REVIEW
of the educational program of the doctoral program
8D11366 – Logistics (by industry)

The educational program of the doctoral program 8D11366 – "Logistics (by industry)" is focused on the training of highly qualified personnel in the relevant field.

The profile of the educational program is determined by its focus on the study of modern logistics processes in the context of globalization, digitalization of the economy and transformation of international supply chains. The program is aimed at developing the competencies necessary for doctoral students to develop and implement innovative logistics solutions, as well as to manage complex logistics systems at the national and international levels.

The program structure includes compulsory and elective disciplines that ensure the implementation of specialized training, including such basic courses as "Research Methods", "Modeling of logistics systems", as well as disciplines focused on the development of research and analytical skills. The program provides practical training, experimental research practice and scientific internships, which allows you to integrate theoretical training with practical and experimental research.

In the process of mastering the educational program, doctoral students develop the following key professional and research competencies:

• the ability to conduct independent scientific and experimental research in the field of logistics;

• skills in analysis, modeling and optimization of logistics processes and supply chains;

• ability to develop, test and implement innovative technologies and digital solutions in logistics;

• readiness for scientific and pedagogical activity in the higher education system.

The content of the educational program generally meets modern requirements and current trends in the development of logistics science and practice.

Recommendations for improving the educational program:

1. Increase the volume of practice-oriented and experimental classes aimed at modeling and analyzing real logistics processes.

2. Expand the list of disciplines and modules dedicated to modern information and digital technologies in logistics, including platform solutions and intelligent supply chain management systems.

3. Strengthen the integration of the educational process with relevant organizations and companies to expand the possibilities of experimental research practice for doctoral students.

Conclusion: the educational program of the doctoral program 8D11366 – "Logistics (by industry)" is relevant, in demand and meets the requirements of specialized training at the third level of higher education. The program provides training for specialists capable of solving complex scientific and applied tasks in the field of logistics, and can be recommended for implementation based on the proposed recommendations.

The reviewer
is Candidate of Technical Sciences, Assistant Professor
School of Transport Engineering and Logistics
named after M.Tynyshpaeva, Logistics department,
Satbayev University — Kiseleva O.G.

TASYMALDAÝSHYLAR QAÝYMDASTYGY «HEAVY TRANS»

LETTER OF RECOMMENDATION FROM THE EMPLOYER

With this letter, I express my support for the doctoral program 8D11366 – "Logistics (by industry)", implemented at your educational institution, and also confirm its importance for conducting applied and experimental scientific research in the field of logistics.

The relevance of this program is determined by current trends in the development of transport and logistics systems, including the increasing complexity of global supply chains, the growth of transit cargo flows, as well as the active introduction of digital and intelligent technologies in logistics process management. Under these conditions, experimental research aimed at testing new models, methods and tools for managing logistics systems in real or near-real conditions is of particular importance.

The doctoral program in logistics should focus not only on the formation of theoretical knowledge, but also on the development of research competencies necessary for conducting experimental and applied research, modeling logistics processes, analyzing the effectiveness of transport and logistics solutions and implementing scientifically sound recommendations in practical activities. This fully meets the current and future demands of the industry and the labor market.

Over the past three years, I have had the opportunity to collaborate with this higher education institution as a guest lecturer and partner from my employer. During the interaction, the high level of the scientific and educational environment, the potential for conducting experimental research in the field of logistics, as well as the professionalism of the teaching staff were noted. Teachers have developed scientific and analytical thinking, experience in participating in research projects and the ability to integrate the results of scientific experiments into the educational process.

Taking into account the above, I believe that the educational program of the doctoral program 8D11366 – "Logistics (by industry)" creates the necessary conditions for conducting experimental research, the results of which can be used to develop practical recommendations for improving the efficiency of logistics and transport processes. In this regard, I recommend this program to be implemented and supported as a significant tool for training scientific personnel and developing logistics science and practice.

With respect,

S.Zh. Mederov, Executive Director of the National Association
of Large and Heavy Cargo Carriers
of the Republic of Kazakhstan.

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13. PROTOCOLS OF REVIEW AND APPROVAL

JSC "ALT UNIVERSITY NAMED AFTER MUKHAMEDZHAN TYNYSHPAYEV"

MINUTES No. 1
of the meeting of the Academic Committee on the Educational Program
8D11366 – Logistics (by Industries) (profile track)
of the Department of **Transport Services and Business**

Almaty "17" 02 2025

Chairperson: Izteleuova M.S.
Secretary: Olzhabayeva R.S.

Present: Institute Director Musayeva G.S.; Head of the Department "Transport Services and Business" Musaliyeva R.D.; Professors: Zhanbirov Zh.G., Izteleuova M.S., Karsybayev E.E.; Associate Professors: Bitileuova Z.K., Vakhitova L.V., Kenzhebayeva G.Zh.; Assistant Professors: Musabayev B.K., Abibullayev S.Sh., Bekmagambetova L.K., Akhmetzhanova A.Kh., Sugurova A.Zh., Shakirtkhanov B.R.; Senior Lecturers: Badambayeva S.E., Userbayeva A.S., Nurzhaubayev M.M., Ursarova A.K., Alik A.R., Olzhabayeva R.S., Shortanbayeva A.T., Demeuova K.T.; Teaching Assistants: Igenbayeva Sh.A., Aipenov Zh.S., Suyenishova M.E.

Students: Master's student Salmanova A.N. (group MN-L-23-1); Doctoral students: Arbabaeva Venera (group DN-L-24-1), Tazhmuratova A.A. (group DN-L-22-1).

Employers: Zhandildin T.Zh. – Development Director, LLP "TransMentor"; Igenbekov E.Sh. – Director, transport and logistics company LLP "ALS Cargo"; Toktamyssova A.B. – Candidate of Technical Sciences, Director of the Department of Consulting Services and Communications, LLP "Elim Consulting", Director of LLP "Kazlogistics Certification"; Kiseleva O.G. – Candidate of Technical Sciences, Associate Professor, School of Transport Engineering and Logistics named after M. Tynyshpayev, Satbayev University; Aikumbekov M.N. – Candidate of Technical Sciences, Analyst, Dispatch Transportation Management Department, LLP "TransCom"; Mederov S.Zh. – Executive Director, National Association of Carriers of Oversized and Heavy Cargo of the Republic of Kazakhstan.

AGENDA:

1. Development and submission to the Register of Educational Programs of the Republic of Kazakhstan of a new educational program **8D11366 – Logistics (by Industries) (profile track)**. Review of the graduate competency model.
2. Development of the working curriculum and the catalog of elective disciplines for the new educational program **8D11366 – Logistics (by Industries) (profile track)**.

On the first agenda item

SPEAKER: Doctor of Technical Sciences, Professor of the Department "Transport Services and Business" Izteleuova M.S. proposed to discuss the development of the new educational program **8D11366 – Logistics (by Industries) (profile track)**, as well as to review the graduate competency model and learning trajectory. She presented the draft of the educational program to the members of the Academic Committee.

Professor Izteleuova M.S. noted that, in developing the new doctoral-level profile educational program, the study of the professional field included the following key aspects:

- analysis of current trends in logistics and supply chain management and assessment of the impact of digitalization and automation on professional roles in logistics;

- identification of labor market needs through interviews with employers to determine the most in-demand skills and competencies, including an analysis of vacancies and qualification requirements in logistics;
- review of professional standards in logistics and management, with consideration of key competencies required for successful professional activity;
- organization of round tables and seminars involving experts, faculty members, and business representatives to discuss current issues and educational needs, which contributed to the development of the program.

Based on the collected information, a concept for the new educational program was developed, aligned with modern labor market requirements and expectations.

Key professionally significant competencies identified for the doctoral profile program in logistics include:

Analytical skills – ability to collect, analyze, and interpret data related to logistics processes and supply chains;

Project management – competencies in planning, implementing, and controlling logistics projects, including resource and timeline management;

Digital literacy – ability to use modern information technologies and software to optimize logistics processes;

Strategic thinking – ability to develop and implement supply chain management strategies considering global and local trends;

Communication skills – ability to effectively interact with various stakeholders, including suppliers, customers, and internal teams;

Innovative approaches – ability to introduce innovations and new technologies into logistics processes to improve efficiency.

These competencies will ensure the training of specialists capable of effective performance in the rapidly changing field of logistics and supply chain management.

When forming the learning outcomes of the doctoral educational program, the following evaluation criteria were considered:

- research competence – ability to formulate scientific hypotheses, conduct research, analyze and interpret data;
- communication competence – ability to present research results at scientific conferences;
- managerial competence – ability to manage projects and research teams;
- digital competence – ability to apply modern information technologies for data analysis.

SPEAKER: Head of the Department "Transport Services and Business" Musaliyeva R.D. proposed to strengthen the experimental and research orientation of the new program, emphasizing the expansion and deepening of knowledge in the selected research area and making an original contribution through research and publications, as well as promoting cooperation and innovation across disciplines.

SPEAKER: Employer representative, member of the Academic Committee, Analyst of the Dispatch Transportation Management Department, LLP "TransCom", Candidate of Technical Sciences Aikumbekov M.N., characterized the graduate competency model as relevant and meeting labor market requirements.

SPEAKER: Employer representative, member of the Academic Committee, Executive Director of the National Association of Carriers of Oversized and Heavy Cargo of the Republic of Kazakhstan Mederov S.Zh. emphasized the relevance of the proposed competency model, new disciplines, and minor programs. He noted that the program's relevance is driven by current trends in transport and logistics system development, including the complexity of global supply chains, growth of transit cargo flows, and the active implementation of digital and intelligent technologies. Under these conditions, experimental research aimed at testing new models, methods, and tools in real or near-real environments becomes particularly important.

The Head of the Educational Program **8D11366 – Logistics (by Industries) (profile track)** Izteleuova M.S. proposed appointing experts and reviewers for the program and suggested the following candidates:

Expert: Toktamyssova A.B., Candidate of Technical Sciences, Director of the Department of Consulting Services and Communications, LLP "Elim Consulting", Director of LLP "Kazlogistics Certification";

Reviewer: Kiseleva O.G., Candidate of Technical Sciences, Associate Professor, School of Transport Engineering and Logistics named after M. Tynyshpayev, Satbayev University.

RESOLVED:

1. To approve the educational program **8D11366 – Logistics (by Industries) (profile track)**, including the competency model, curriculum, and course descriptions, taking into account the proposals and recommendations of the Academic Committee members, department representatives, and employer community.
2. To appoint the above-mentioned experts and reviewers.
3. To submit the draft doctoral educational program for review by the Educational and Methodological Bureau of the Institute of Logistics and Business.
4. To ensure inclusion of the educational program in the Register of Educational Programs of the Republic of Kazakhstan (Unified Register).

On the second question

Performed: Doctor of Technical Sciences, Professor of the TUiB Department, 8D11366 Logistics (by industry) (profile area) M.S. Izteleuova, she submitted for consideration a draft work curriculum and a catalog of elective subjects of the new educational program 8D11366 Logistics (by industry) (profile area) and proposed approval, taking into account the suggestions and recommendations made by members of the academic committee, representatives of the department and representatives of the community of employers.

The SPEAKER was T. Zhandildin, Director of Development at TransMentor LLP, who supported the proposal to approve the working curriculum and the catalog of elective subjects for the new educational program 8D11366 Logistics (by industry) (core area), taking into account the suggestions and recommendations made by members of the academic committee, representatives of the department and representatives of the employer community.

A suggestion is being made. To approve the working curriculum and the catalog of elective subjects of the new educational program 8D11366 Logistics (by industry) (profile area), taking into account the suggestions and recommendations made by members of the academic committee, representatives of the department and representatives of the community of employers.

THEY DECIDED:

1. To approve the working curriculum and the catalog of elective subjects of the new educational program 8D11366 Logistics (by industry) (profile area), taking into account the suggestions and recommendations made by members of the academic committee, representatives of the department and representatives of the community of employers.
2. To present a working curriculum and a catalog of elective subjects of the new doctoral program 8D11366 Logistics (by industry) (profile area) for consideration by the UMB Institute of Logistics and Business.

Chairperson: _____ Izteleuova M.S.
Secretary: _____ Olzhabayeva R.S.

ALT UNIVERSITY NAMED AFTER MUKHAMEDZHAN TYNYSHPAYEV JSC

Extract from protocol No. 7
meetings of the Educational and Methodological Bureau of the Institute of Logistics and Business

city of Almaty "20" 02 2025 year

Chairman: Musayeva G.S.
Secretary: Ursarova A.K.

Present: Director of the Institute Musayeva G.S., head of the department "TUiB" Musalieva R.D., professors: Zhanbirov Zh.G., Izteleuova M.S., Karsybaev E.E., associate professors Bitileuova Z.K., Vakhitova L.V., Kenzhebaeva G.Zh., assistant professors: Musabaev B.K., Abibullaev S.Sh., Bekmagambetova L.K., Akhmetzhanova A.Kh., Sugurova A.Zh., Shakirthanov B.R., senior lecturers: Badambayeva S.E., Userbayeva A.S., Nurzhaubaev M.M., Ursarova A.K., Alik A.R., Olzhabayeva R.S., Shortanbayeva A.T., Demeuova K.T., teaching assistant Igenbayeva Sh.A., Aypenov Zh.S., Suyenishova M.E.

students: master's student, gr. MN-L-23-1 Salmanova A. N., doctoral students gr. DN-L-24-1, Arbabayeva Venera, DN-L-22-1 Tazhmuratova A.A.

employers: Zhandildin T.Zh. - Director of Development of TransMentor LLP, Igenbekov E.Sh. - Director of the transport and logistics company ALS Cargo LLP; Candidate of Technical Sciences, Director of the Department of Consulting Services and Communications of Elim Consulting LLP, Director of Kazlogistics Certification LLP Toktamysova A.B.; Candidate of Technical Sciences, Assistant Professor School of Transport Engineering and Logistics named after M.Tynyshpaeva, Logistics department, Satbayev University Kiseleva O.G.; specialist-analyst of the Transportation Control Department of TransCom LLP, Candidate of Technical Sciences Aikumbekov M.N.; Executive Director of the National Association of Large and Heavy Cargo Carriers of the Republic of Kazakhstan Mederov S.Zh.

AGENDA:

1. Consideration of the new educational program 8D11366 Logistics (by industry) (profile area) of the Department of Transport Services and Business
2. Review of the Catalog of elective subjects (CED), the Working Curriculum (RUP), the passport of the new educational program 8D11366 Logistics (by industry) (profile area)

The speaker was: Head of the TUiB Department, R.D. Musalieva, who presented for consideration a new educational program for the doctoral degree 8D11366 Logistics (by industry) (profile area) of the Department of Transport Services and Business, KED and RUP.

A meeting of the academic committee was held at the TUiB Department with the involvement of representatives of employers, the academic community and students to discuss the structure and content of the new doctoral program 8D11366 Logistics (by industry) (profile area).

Representatives of employers and students were offered a number of new relevant disciplines, which the department approved and included in the new CAD and RUP.

THEY DECIDED:

1. Take the information into consideration;
2. Take into account all suggestions and recommendations of employers, representatives of the learning asset;
3. To submit a draft of a new educational program for the doctoral degree 8D11366 Logistics (by industry) (profile area) of the Department of Transport Services and Business, KED, RUP for consideration and approval at the University's conference.

Chairman of UMB **Musayeva G.S.**

Secretary **Ursarova A.K.**

14. APPROVAL SHEET

№	Full name	Place of work/study	Position	Date of approval	Signature
	Chigambaev T.O.	ALT university	Head of the Depart	18. 02. 25	
	Kolkabaeva B.U.	ALT University	LE of the depart	18. 02. 25	
	[illegible]	ALT [illegible]	[illegible]	18. 02. 25	

15. CHANGE REGISTRATION SHEET

Publication number	Date of introduction	Changes	Signature
1	2	3	4