School of transport engineering and logistics named after M. Tynyshpayev
Department of "Logistics"

EDUCATIONAL PROGRAM
8D11302 Management of transportation systems
Code and name of educational program

Code and classification of the field of education: **8D11 Services**
Code and classification of training directions: **8D11 Transport services**
Group of educational programs: **D147 Transport services**
Level based on NQF:**8**
Level based on IQF:**8**
Study period:**3**
Amount of credits:**180**

Almaty 2024

Educational program 8D11301 Transport services
code and name of educational program
was approved at the meeting of K.I. Satbayev KazNRTU Academic Council

Protocol № 3 dated «_27___» _10_2022.

was reviewed and recommended for approval at the meeting of K.I. Satbayev KazNRTU Educational and Methodological Council

Protocol № 2 dated «_21___» _10_2022

Educational program «8D11302 Management of transportation systems»

code and name of educational program

was developed by Academic committee based on direction «8D11 Transport services»

Full name	Academic degree/ academic title	Position	Workplace	Signature
Chairperson of Academic Committee:				
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Table of contents

List of abbreviations and designations

EP - educational program
NRK - National Qualification Framework
IRK - Industry Qualification Framework

1. Description of educational program

EP "8D11301 - Transport Services" is aimed at training a specialist who can carry out labour activity in international, state, research, scientific and pedagogical, design and design and technological institutions, as well as in industrial companies, regional transport cluster organisations of the transport sector of the national economy, based on the application of innovative, organisational, managerial and scientific and pedagogical innovations in the field of transport services.

2. Purpose and objectives of educational program

Purpose of EP: Training of highly qualified scientific, pedagogical and managerial personnel with methodological knowledge and professional competencies in making innovative decisions, to analyze and forecast the results of research activities in the field of transport flow and process management

Tasks of EP:

- providing the domestic labor market with highly qualified scientific personnel for the formation of a sustainable national economy with a high level of competitiveness on a global scale;
- the formation of scientists of a new generation capable of systemic and critical thinking in conditions of deep transformation at the worldview level;
- development of an environment that ensures the continuous development of scientific thought for the benefit of society as a whole;
- implementation of research work, organization and implementation of educational activities, taking into account the latest achievements of domestic and world science and practice;
- formation of sustainable partnerships with leading universities of near and far abroad for the purpose of open and mutually beneficial cooperation in the global educational and scientific space.

3. Requirements for evaluating the educational program learning outcomes

4. Passport of educational program

4.1. General information

№	Field name	Comments
1	Code and classification of the field of education	8D11 Services
2	Code and classification of training directions	8D113 Transport services

3	Educational program group	8D147 Transport services
4	Educational program name	8D11302 Management of transportation systems
5	Short description of educational program	EP "8D11302 Management of transportation systems" is aimed at training a specialist who can carry out labour activity in international, state, research, scientific and pedagogical, design and design and technological institutions, as well as in industrial companies, regional transport cluster organisations of the transport sector of the national economy, based on the application of innovative, organisational, managerial and scientific and pedagogical innovations in the field of transport services.
6	Purpose of EP	The educational program of profile doctoral studies is aimed at training highly professional managerial staff with new methodological knowledge, professional competencies and leadership qualities for making operational and strategic decisions in the field of management of transport systems, flows and provision of transport services.
7	Type of EP	New EP
8	The level based on NQF	8
9	The level based on IQF	8
10	Distinctive features of EP	no
11	List of competencies of educational program	- to be able to carry out scientific activities in the paradigm of modern trends in the global and national educational space in accordance with the modern national education strategy; - to be able to organize the process of education and upbringing as a dynamic system in accordance with the modern strategy of education; - to be able to critically analyze and evaluate modern scientific achievements, generate new ideas in solving research and practical problems, including in interdisciplinary areas; - to be able to design and carry out comprehensive research, including interdisciplinary ones, based on a holistic systemic scientific outlook using knowledge in the field of transport services and traffic flows; - to be able to implement scientific projects in the work of kazakh and international research teams to solve scientific and scientific and educational problems; - to be able to solve standard tasks of professional activity using information and communication technologies; - to be able to think strategically and creatively, as well as creatively approach solving non-standard problems and situations;
12	Learning outcomes of educational program	1. Plan and conduct research in the field of supply chain, transportation systems, processes and services to identify new knowledge based on the application of scientific research methods and advanced scientific achievements. 2. Develop large-scale transportation and logistics projects of regional and international level based on the application

		of effective business process and project management tools, innovative technology and corporate governance principles . 3. Determine the tariff policy of the company based on the methodology of tariff index construction for transport services and ways to optimize the cost of their provision in order to increase competitiveness and sustainability of the company's functioning. 4. Implement and apply modern information systems and digital technologies to solve professional problems, increase reliability, sustainability and competitiveness of the company. 5. Forecast and analyze the results of innovative activities of transport systems based on the modeling of optimal freight flow patterns in the context of globalization and supply chain reliability. 6. Formalize the results of research work in the form of academic and scientific texts of various levels. 7. Demonstrate skills of successful management of corporate structures, communication and teamwork, strategic decision-making and effective human resource management based on ethical business norms.
13	Education form	
14	Period of training	3
15	Amount of credits	180
16	Languages of instruction	kazakh russian
17	Academic degree awarded	PhD
18	Developer(s) and authors	Mukhanova Gulmira Samudinovna

4.2. Relationship between the achievability of the formed learning outcomes based on educational program and academic disciplines

№	Discipline name	Short description of discipline	Amount of credits	Generated learning outcomes (codes)								
				LO1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9
Cycle of basic disciplines University component												
1	Academic writing	The course aims to develop academic writing skills of doctoral students in engineering and natural sciences. The course focuses on fundamentals and general principles of academic writing for; -writing effective sentences and paragraphs; -the use of tenses in scientific works, as well as styles and punctuation; - writing an abstract, introduction, results, discussion, conclusion, literature and resources used; - citing in the text; - preventing plagiarism, and making a presentation at the conference.	5	v					v			
2	Research methods	The concept of science and scientific research, methods and methodology of scientific research, methods of collecting and processing scientific data, principles of organizing scientific research, methodological features of modern science, ways of developing science and scientific research, the role of technical sciences, informatics and engineering research in modern science, the structure of technical sciences, the use of general scientific, philosophical and special methods scientific research in theory and practice.	5	v								
Cycle of basic disciplines Component of choice												
3	Cargo flow modeling	Purpose: to study scientific approaches in modeling and forecasting of freight and	5	v				v				

	and forecasting	transport flows. Content: Modeling of freight flows taking into account the systematization of socio-economic data. Forecasting of cargo flows and technical development of transport and logistics infrastructure. Formation and visualization of correspondence matrix on all types of transport. Creation of scenarios of cargo flows on all types of transportation. Forecasting the intensity of cargo transportation taking into account their redistribution depending on various factors. Selection of optimal freight transportation schemes. Analysis of transport accessibility.										
4	Sustainability Science	Objective: to develop a deep understanding among doctoral students of the interactions between natural and social systems, as well as to develop skills for identifying and developing strategies for sustainable development that promote long-term human well-being and environmental preservation. Content: complex interconnections between ecosystems and societies, as well as an in-depth analysis of sustainability issues at local, national, and international levels.	5	v		v	v					
5	System of tariff formation of transportation services	Purpose: to study the science-based methodology of tariff formation in transportation. Content: Principles of construction and methodological approaches to determining tariffs for transportation services. Features of transportation tariffs on different types of transport. Differentiation of tariffs. State regulation of tariffs for freight	5			v						

		and passenger transportation. Modern trends in the development of the tariff system in transportation.										
Cycle of profile disciplines Component of choice												
6	Current trends in global supply chain management	Purpose: doctoral students acquire skills in organizing global supply chains based on the study of global practices and transportation policies. Content: Main trends in the development of supply chain management (SCM). Key factors and driving forces that determine globalization in SCM. The purpose, objectives and building blocks of international transportation policy. Industry 4.0 in the supply chain. Best practices of advanced companies in building a sustainable supply chain. Supply chain reliability. Customer centricity and business sustainability. Increasing supply chain agility and transparency.	5	v	v		v	v				
7	Corporate governance of transportation and logistics companies	Purpose: To explore the key principles, concepts and practices necessary for effective management of transportation and logistics companies. Content: Understanding the structure and functions of corporate organizations in the field of transport services. Analysis of strategic management of transportation and logistics companies: strategy formulation, strategic decision making and evaluation of strategic success. Financial and resource management in transportation. Ethical and social aspects of management. Human capital in transportation and logistics companies. Corporate strategy and competitiveness of	5		v							

		transportation and logistics companies.										
8	Management of transportation and logistics business projects	Purpose: formation of system knowledge and skills in the field of transportation and logistics business project management. Content: Conceptual methods and approaches in the management of transportation and logistics business projects. Methods and tools of project management. Strategic management of transportation and logistics business projects. Management of transnational transportation companies. Current trends in international transportation business. International transportation infrastructure projects. Investment analysis and financing of transportation and logistics industry projects. World economy and modern transformation of international transportation systems.	5		v			v				
9	Innovative technologies of transportation processes	Purpose: to master the skills of application of modern digital technologies in transportation systems and management of transportation processes. Content: modern information systems and digital technologies in the management of transportation processes and flows. Innovative technologies in transportation infrastructure. Satellite communication systems, search and monitoring of transportation flows and processes. The role and place of artificial intelligence in the transportation system. RFID, BigData, Blockchain, Internet Of Things technologies in the transportation system.	5		v		v					

5. Curriculum of educational program

KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY named after K.I.SATBAYEV

SATBAYEV UNIVERSITY

APPROVED
Chairman of the Management Board-Rector of Kaznitu named after K.Satpayev
M.M. Begentaev
2024 y.

CURRICULUM
of Educational Program on enrollment for 2024-2025 academic year

Educational program 8D11302 - "Management of transportation systems"
Group of educational programs D147 - "Transport services"

Form of study: full-time | Duration of study: 3 year | Academic degree: Doctor by profile

Discipline code	Name of disciplines	Cycle	Total amount in credits	Total hours	Classroom amount lec/lab/pr	SIS (including TSIS) in hours	Form of control	Allocation of face-to-face training based on courses and semesters					
								1 course		2 course			
								1 semester	2 semester	3 semester	4 semester	5 semester	6 semester
CYCLE OF BASIC DISCIPLINES (BD)													
M-1. Module of basic training (university component)													
MET322	Scientific research methods	BD UC	5	150	2/0/1	105	E	5					
LNG305	Academic writing	BD UC	5	150	0/0/3	105	E	5					
component of choice													
LOG324	Cargo flow modeling and forecasting	BD CCH	5	150	2/0/1	105	E	5					
LOG321	System of tariff formation of transportation services												
MNG358	Sustainability Science												
CYCLE OF PROFILE DISCIPLINES (PD)													
M-2. Module of professional activity (component of choice)													
LOG323	Current trends in global supply chain management	PD, CCH	5	150	2/0/1	105	E	5					
LOG326	System analysis of transport systems												
LOG325	Management of transportation and logistics business projects	PD, CCH	5	150	2/0/1	105	E	5					
LOG322	Innovative technologies of transportation processes												
M-3. Practice-oriented module													
AAP371	Industrial internship	PD UC	20						20				
M-4. Experimental research module													
AAP372	Experimental research work of doctoral student, including internships and doctoral dissertations	ERWDS UC	5					5					
AAP376	Experimental research work of doctoral student, including internships and doctoral dissertations	ERWDS UC	10						10				
AAP374	Experimental research work of doctoral student, including internships and doctoral dissertations	ERWDS UC	90							30	30	30	
AAP375	Experimental research work of doctoral student, including internships and doctoral dissertations	ERWDS UC	18										18
M-5. Module of final attestation													
ECA303	Writing and defending a doctoral dissertation	FA	12										12
	Total based on UNIVERSITY:							30	30	30	30	30	30
								60		60		60	

Number of credits for the entire period of study					
Cycle code	Cycles of disciplines	Credits			
			university component (UC)	component of choice (CCH)	Total
BD	Cycle of basic disciplines		10	5	15
PD	Cycle of profile disciplines		20	10	30
	Total for theoretical training:	8	30	15	45
	ERWDS				123
FA	Final attestation	12			12
	TOTAL:	12	30	15	180

Decision of the Academic Council of Kaznitu named after K.Satpayev. Protocol № 12-22.04 2024.

Decision of the Educational and Methodological Council of Kaznitu named after K.Satpayev. Protocol № 6 -19.04 2024.

Decision of the Academic Council of the School of transport engineering and logistics named after M. Tynyshpayev. Protocol № 11 -19.03 2024 г. у.

Vice-Rector for Academic Affairs — R.K. Uskenbayeva

Head of School of transport engineering and logistics named after M. Tynyshpayev — S.S. Abdullayev

Head of educational programs School of transport engineering and logistics named after M. Tynyshpayev — G.S. Mukhanova

Specialty Council representative from — M.K.Sharubekov