NCJS «KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY
named after K.I.SATBAYEV»

School of transport engineering and logistics named after M. Tynyshpayev
«Logistics» direction

EDUCATIONAL PROGRAM

7M11302 Logistics

Code and classification of the field of education: **7M11 Services**
Code and classification of training directions: **7M113 Transport services**
Group of educational programs: **M152 Logistics (by industries)**
Level based on NQF: **7**
Level based on IQF: **7**
Study period: **2**
Amount of credits: **120**

Almaty 2025

Educational Program 7M11302 – «Logistics»
approved at the meeting of the Academic Council of Satbayev University.
Protocol No. 10 dated March 6, 2025.
Reviewed and recommended for approval at the meeting of the Educational and Methodological Council of Satbayev University.
Protocol No. 3 dated December 20, 2024.

The Educational Program 7M11302 – «Logistics»
was developed by the Academic Committee in the field of study 7M113 "Transport Services."

Full name	Academic degree / title	Position	Workplace	Signature
Chair of the Academic Committee:				
Bektilyovov Aldabergen Yusupovich	PhD	Acting Head	Satbayev University	
Faculty members:				
Bekzhanova Saule Ertaevna	Doctor of Technical Sciences, Professor	Professor	Satbayev University	
Mukhanova Gulmira Samudinovna	Candidate of Technical Sciences, Associate Professor	Professor	Satbayev University	
Tymbaeva Zhazira Muratbekovna	Candidate of Economic Sciences	Associate Professor	Satbayev University	
Izbairova Aliya Serikovna	Candidate of Technical Sciences, Associate Professor	Associate Professor	Satbayev University	
Kiseleva Olga Gennadievna	Candidate of Technical Sciences	Associate Professor	Satbayev University	
Employers:				
Tansykkozshin Aidos Dauletovich	-	General Director	LLP "ZhebeLogistics"	
Sharubekov Murat Nesipbekovich	Candidate of Technical Sciences	Advisor to the General Director	LLP "Azurit Railway Solutions"	
Students:				
Seidilda Shugyla	-	2nd-year student	Satbayev University	

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List of abbreviations and designations

EP Educational program
NQF National Qualifications Framework
SQF Sectoral Qualifications Framework
SDG Sustainable Development Goals

1. Description of educational program

EP 7M11302 - "Logistics" is developed in accordance with the requirements to the level of training of a master student, which are determined on the basis of the Dublin descriptors of the second level of higher education (Master's degree) and reflect the mastered competences expressed in the achieved learning outcomes.

The educational program is directly linked to several Sustainable Development Goals (SDGs), since transport plays a key role in the economy, social integration, and ecology. The main SDGs addressed by the EP 7M11302 - "Logistics" are:

SDG 4 – Quality Education. Training qualified specialists in the field of transport services expands access to modern knowledge, skills, and technologies, while also forming interdisciplinary competencies (logistics, IT, service, etc.).

SDG 8– Decent Work and Economic Growth. The development of transport services stimulates the economy, increases population mobility, and creates new jobs. The program prepares specialists for employment in transportation, logistics, and service sectors.

SDG 9 – Industry, Innovation, and Infrastructure. Transport services are closely connected with the development of modern infrastructure and the implementation of innovations (digitalization, intelligent transport systems, IT in transport and logistics). The program emphasizes sustainable and intelligent transport solutions that ensure transport process safety.

SDG 11 – Sustainable Cities and Communities. Transport is a key element of sustainable urban mobility. Training specialists in transport services contributes to the development of environmentally friendly, safe, and accessible transportation, while reducing congestion and harmful emissions.

SDG 12 – Responsible Consumption and Production. The curriculum includes issues of optimizing transport and logistics processes, energy efficiency, and the environmental friendliness of transport services.

SDG 13 – Climate Action. The program addresses reducing the carbon footprint of transport, as well as developing vehicles and transport technologies powered by alternative fuels.

Objects of professional activity include:

Organizations and enterprises of public transport engaged in passenger, cargo, baggage, and freight transportation, provision of infrastructure, loading and unloading operations, regardless of their ownership or legal forms;

Traffic safety departments of state and private transport enterprises;

Logistics departments of industrial and commercial organizations;

State transport inspection services, marketing services, and departments responsible for studying and servicing the transport services market;

Production and distribution systems, organizations, and enterprises providing information support for production and technological systems;

Research and design organizations engaged in the development of transport and logistics services, organization, and traffic safety;

Educational institutions implementing basic professional educational programs and vocational training progra

2. Purpose and objectives of educational program

Purpose of EP: Training of scientific and pedagogical personnel who have skills in working with modern information technologies and automated systems and programs that allow to carry out research in the field of transport, supply chain, transport and logistics systems, functions and processes automation and modelling.

Tasks of EP:

-creating conditions for the formation and development of students' competences based on the application of modern learning technologies;

- providing the educational process with highly qualified domestic and foreign staff;

-training of competitive specialists with deep theoretical knowledge and practical skills in the field of logistics;

- creation of conditions for co-operation with foreign partner universities in order to provide students with access to global knowledge bases;

-formation and development of environment for the development of science in the field of logistics.

- training graduates capable of carrying out controlling of logistics processes, analyzing and assessing logistics risks, and making appropriate decisions to prevent and mitigate them;

- training graduates capable of ensuring the development of the transport industry through innovations, digitalization, and sustainable solutions in line with the SDGs.

3. Requirements for evaluating the educational program learning outcomes

The educational program has been developed in accordance with the State Compulsory Standards 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 (registered in the State Register of Regulatory Legal Acts under No. 28916), and reflects the learning outcomes on the basis of which curricula are developed (working curricula, individual study plans of students) as well as course syllabi.

Assessment of learning outcomes is carried out using specially developed test assignments within the framework of the educational program in accordance with the requirements of the State Compulsory Standard of Higher and Postgraduate Education.

When assessing learning outcomes, equal conditions and opportunities are provided for students to demonstrate their level of knowledge, skills, and competencies.

4. Passport of educational program

4.1. General information

№	Field name	Comments
1	Code and classification of the field of education	7M11 Services
2	Code and classification of training directions	7M113 Transport services
3	Educational program group	M152 Logistics (by industries)
4	Educational program name	7M11302 Logistics
5	Short description of educational program	EP 7M11302 - "Logistics" is developed in accordance with the requirements to the level of training of a master student, which are determined on the basis of the Dublin descriptors of the second level of higher education (Master's degree) and reflect the mastered competences expressed in the achieved learning outcomes.
6	Purpose of EP	Training of scientific and pedagogical personnel who have skills in working with modern information technologies and automated systems and programs that allow to carry out research in the field of transport, supply chain, transport and logistics systems, functions and processes automation and modelling.
7	Type of EP	New EP
8	The level based on NQF	7
9	The level based on SQF	7
10	Distinctive features of EP	Double diploma EP
11	List of competencies of educational program	-ability to apply scientific methods of analysis, sequences of analysis to substantiate scientific theories, to conduct analytical reviews; - ability to identify promising, relevant areas of research of scientific and applied nature on the basis of experimental and research developments; -ability to analyse logistics operations and functions in order to identify sources of innovation; -has the skills to assess the attractiveness of alternative innovation projects and the ability to justify own decision; -ability to apply modern logistics concepts in supply chains of industrial enterprises; - ability to apply methods of risk assessment of the transport and logistics services market in order to increase the reliability of the object's functioning and the efficiency of the decisions taken
12	Learning outcomes of educational program	1. Applies automated systems, communications and automation systems in road transport in the study of transport processes, transport services and logistics functions. 2. Introduces innovative technologies in the management of transport and logistics processes, the interaction of modes of transport and the supply chain in order to ensure the safety of the supply chain and increase the efficiency of the use of material, technical, financial and information resources.

		3. Formulates complex supply chain and inventory management problems and identifies solutions. 4. Develops separate stages of technological processes to ensure the safety of personnel, the transportation process, the operation of vehicles and the movement of material flow in the supply chain, on the implementation of automation systems of the transportation process. 5. Designs and researches transport objects and facilities, intelligent transport systems and reverse logistics chains based on the use of modern transport technologies, automatic design programs and knowledge of the international transport corridor systems, the technical characteristics and features of transport, vehicles and equipment. 6. Applies modern teaching methods and educational technologies of pedagogical activity, communication skills, foreign language in scientific-pedagogical and research activities. 7.The ability to apply a philosophical worldview and approach to research, the principles and laws of philosophical thinking, intellectual property protection rights in the field of scientific research. 8. Identifies current issues in sustainable logistics, supply chain, inventory and costs management strategies, sustainable development strategies, intelligent transport systems in order to develop ways to reduce environmental emissions and maintain a favourable ecological environment. 9. Solves the problems of designing and planning of supply chain of production system, logistics processes, global logistics systems and intelligent transportation systems using information technology and automation systems and in accordance with the goals of sustainable development. 10. Uses methods of mathematical and simulation modelling, strategic planning and analysis, forecasting of transport and material flows to make optimal decisions in studies of transport and logistics processes and the movement of material flow in the supply chain. 11. Independently conducts research on transport and logistics objects and processes, transport systems in order to reasonably makes scientific decisions.
13	Education form	Full-time
14	Period of training	2
15	Amount of credits	120
16	Languages of instruction	Russian, Kazakh, English
17	Academic degree awarded	Master
18	Developer(s) and authors	Mukhanova Gulmira Samudinovna, Imasheva Gulnar Mahmutovna

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	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11
Cycle of general education disciplines Required component														
1	Foreign language (professional)	The course is aimed at studying the main problems of scientific knowledge in the context of its historical development and philosophical understanding, the evolution of scientific theories, principles and methods of scientific research in the historical construction of scientific paintings of the world. The discipline will help to master the skills of developing critical and constructive scientific thinking based on research on the history and philosophy of science. At the end of the course, undergraduates will learn to analyze the ideological and methodological problems of science and engineering and technical activities in building Kazakhstan's science and the prospects for	3						**v**					

		its development.												
2	History and philosophy of science	Purpose: to explore the history and philosophy of science as a system of concepts of global and Kazakh science. Content: the subject of philosophy of science, dynamics of science, the main stages of the historical development of science, features of classical science, non-classical and post-non-classical science, philosophy of mathematics, physics, engineering and technology, specifics of engineering sciences, ethics of science, social and moral responsibility of a scientist and engineer.	3							**v**				
3	Higher School Pedagogy	The course is aimed at mastering the methodological and theoretical foundations of higher education pedagogy. The discipline will help to master the skills of modern pedagogical technologies, technologies of pedagogical design, organization and control in higher education, skills of communicative competence. At the end of the course, undergraduates	3						**v**					

		learn how to organize and conduct various forms of organizing training, apply active teaching methods, and select the content of training sessions. Organize the educational process on the basis of credit technology of education.												
4	Psychology of management	The course is aimed at mastering the tools for effective employee management, based on knowledge of the psychological mechanisms of the manager's activity. Discipline will help you master the skills of making decisions, creating a favorable psychological climate, motivating employees, setting goals, building a team and communicating with employees. At the end of the course, undergraduates will learn how to resolve managerial conflicts, create their own image, analyze situations in the field of managerial activity, as well as negotiate, be stress-resistant and effective leaders.	3						**v**					

Cycle of basic disciplines Component of choice														
5	Automated systems for solving logistics problems	The purpose of the discipline is the acquisition of skills for solving logistics problems by undergraduates using automated systems.. Specialized logistics company management software. Features of the implementation of the KANBAN system. MySAP Buisness Suite e-business platform. Integrated SAP NetWeaver integration platform. Logistics software based on the SAP platform. Automated SAP platform technologies for Supply Chain Management (SCM) and Customer Ralationship Management (CRM).	5		**v**							**v**	**v**	
6	Analysis and forecasting of traffic flows	Purpose: To provide comprehensive theoretical knowledge of the fundamentals of transport flow and system analysis and forecasting. Content: Graduate students will study the main characteristics of transport systems and freight flows, existing approaches to transport flow analysis, models and methods for	5										**v**	**v**

		analyzing and forecasting transport flows, as well as time series and forecasting methods in research. Upon completion of the course, graduate students will be able to analyze and forecast the movement of transport flows, apply quantitative and qualitative forecasting methods, and determine transport system indicators for analysis.												
7	Sustainable development strategies	Purpose: To train graduate students in sustainable development strategies to achieve a balance between economic growth, social responsibility, and environmental protection. Content: Graduate students will study the concepts and principles of sustainable development, the development and implementation of sustainable development strategies, the evaluation of their effectiveness, and international standards and best practices. Cases and examples of successful sustainable development strategies are included.	5								**v**			

8	Simulation modeling of logistics processes and systems	Learning objectives: acquiring knowledge of simulation modeling methods and acquiring skills: development of a conceptual model, building a simulation model, generating options, planning experiments, comparing options, assessment of options, choice of options. Content of the discipline: building a conceptual model of transport and logistics systems and system processes. Research in the field of transport and production logistics based on simulation modeling methods: - problem analysis; - data collection; - development of conceptual and simulation models; - planning, execution and evaluation of the experiment; - interpretation and presentation of results.	5										**v**	
9	Foreign language (not English)(Silesian University of Technology)	The purpose of the course: Proficiency in a foreign language at a basic level of communication and preparation for the use of foreign language sources in the field of study. Course	2						**v**					

		content: Lexical and linguistic material (text and sentence) satisfy two basic principles of language teaching: communicative and systemic. The basic level involves the improvement of the language and communicative competence of students within the elementary level of education, the formation of an active and passive vocabulary of the student and the development of the ability to listen and adequately perceive the speech of the interlocutor.												
10	Research methodology	The Master should know the main aim of scientific activity - to obtain knowledge about reality. Competencies acquired during the study of the discipline: - know the classification of scientific methods, methodological principles of scientific knowledge; - be able to identify patterns and trends based on the synthesis of disciplinary and interdisciplinary fields to conduct comprehensive	5							**v**	**v**			**v**

		research; - be able to apply scientific methods of analysis, the sequence of its implementation to substantiate scientific theories, analytical reviews; - be able to apply scientific approaches, knowledge and ideas in the field of transport systems on the basis of the research, modern methodology, trends in their development; - be able to - be able to critically appraise the development of scientific theories, as well as their current achievements to extend the boundaries of the cognitive process.												
11	Intellectual property and research	The purpose of this course is to provide undergraduates with the knowledge and skills necessary to understand, protect and manage intellectual property (IP) in the context of scientific research and innovation. The course is aimed at training specialists who can effectively work with IP, protect the results of scientific research and apply them in practice.								**v**				
12	Scientific research	The purpose of the discipline	2										**v**	**v**

	methodology (Silesian University of Technology)	is the study of important general principles, methods and guidelines for conducting scientific research and the publication of their results. Content: Selection and definition of the research topic. Literature search. Basic principles of the scientific method. Design experience. Apparatus design. Conducting experiments. Analysis of experimental data. Measurement errors. Probability, chance and logic. Mathematical development - general methods of setting problems. Dimensional analysis and application of dimensionless variables. Numerical calculations. Research reports and rules for writing scientific articles. Competences: ability and skills to plan and conduct the necessary research and write a master's thesis correctly.												
Cycle of profile disciplines University component														
13	Actual problems of transport and logistics systems	Learning objectives: the study of the current state of transport systems and	5		**v**		**v**					**v**		

	and processes	processes, the analysis, synthesis and design of traffic flows. Content of the discipline: The current state, problems and trends of development of transport and logistics processes and systems (TLSiP); Organizational and technological bases of transport systems; Indicators of quality and efficiency of the transport process; Problems of freight terminals and storage facilities in the transport system; The role of innovative technologies in the development of TLSiP. The graduate should be able to: - Justify the stages of the implementation of the logistics function in the management of material flows in the TLSiP; - determine the purpose, objectives, functions, design of logistics systems and processes, - possess information about the development of transport logistics market and its current problems; - Form components of the integration trajectory of the												

		MF at different and master the methods for assessing the effectiveness of TLSiP; - identify current problems and design technologies of transport and logistics systems and processes; - describe the activities of the object in terms of process flow; - to collect information about the activities of the object for the design; - implement system designs based on logistics technologies and standards.												
14	Logistic tasks modeling	The aim of the discipline is to form a theoretical basis of master students' knowledge of models and methods of mathematical and simulation modelling. After completing the course a Master student should know the stages of modelling, mathematical methods of solving problems in logistics, the basics of conceptual and simulation modelling; be able to build mathematical models of logistics problems, determine the methods of their solutions and find optimal solutions. Content of the discipline: Mathematical	5										**v**	

		models and methods in logistics processes. Economic-mathematical models and methods of solving problems in the management of production, transport and logistics processes, processes of storage, distribution of resources and product sales. Theoretical foundations and methods of solving applied problems in logistics and organization of transport services. Stages of simulation modelling. Building a conceptual model.												
15	Strategic inventory management in the supply chain	The purpose of the discipline is to study methods of optimal inventory management using information systems.The content of the discipline: the basic concepts of inventory management and methods for their analysis. Supply chain inventory management strategies. Inventory formation mechanisms, principles and methods of inventory management in the supply chain. Models of optimal inventory levels.	5			**v**					**v**		**v**	

		Management of the processes of inventory formation. Methods to reduce overall logistics costs and total costs in inventory management in the supply chain.Information systems and technologies for inventory management in the supply chain.												
16	Strategic logistics cost management	The purpose of the discipline is to study the content of logistics costs and ways to reduce them to increase the company's competitiveness. After completing the course, the undergraduate must know the content of logistics costs and their classification; be able to keep track of logistics costs; have the skills to make decisions to reduce logistics costs. Discipline content: Information on the qualitative and quantitative content of logistics costs. Types of classification of logistics costs. Division of logistics costs according to the areas of activity of the enterprise. Complete and abbreviated cost accounting. Cost accounting in space and	5								**v**			**v**

		time. The reliability of the information base. Planning, accounting and opportunities to reduce logistics costs. Strategic management of logistics costs as a means of increasing the competitiveness of an enterprise. Accounting for logistics costs by function: a) management, b) transportation, c) maintenance and maintenance of stocks at procurement and storage, production and sales and distribution stages. Forecast of sales volume using mathematical and statistical methods, taking into account the inflation factor. Construction of a regression-correlation model of the dependence of sales volume and costs of management, transportation, maintenance and maintenance of stocks. Determination of the total reduced costs and the minimum value of the total costs.												
Cycle of profile disciplines Component of choice														
17	Innovative	The aim of the discipline is	5		**v**							**v**		

	Technology in the Supply Chain	to develop the Master students' knowledge of modern innovative technologies in logistics and supply chain management for application in professional activities. After completing the course, the graduate should know the advanced innovative technologies and information systems in logistics and supply chain management; be able to apply technologies in professional and scientific activities. The content of the discipline: modern technologies based on the intermodal approach, and their use in logistics systems and supply chains. Modern intermodal transport technologies. The principles of increasing the reliability, stability and dynamism of supply chains based on innovative technologies. Modern mechanisms of digital transformation of logistics. The principles of digital management of supply chain processes and the main mechanisms for their implementation.												

18	International transportation corridors	The following are the most important aspects of KCM: KCM, KCM logistics infrastructure and innovative logistics technology. The following topics: KKM: Kizmetty taldau, problems and perspectives. BCC is an important aspect. It is necessary to use intermodal and multimodal technologies. Doing so may cause damage to the logistics infrastructure. KKM and KR. doing so may result in damage to the economy. Doing so may cause the student to fall asleep or to fall asleep, and may result in fire or electric shock.	5			v		v						
19	Integrated Supply Chain Planning	The aim of the discipline is to acquire skills in supply chain planning using modern information technology. Content of the discipline: The modern system of integrated supply chain planning. Types of integrated supply chain planning. Methods of supply chain planning and forecasting. The development of the idea of integration in supply chain	5		v	v					v	v		

		management Internationalization and globalization of the world economy and their impact on the competitiveness of the supply chain. Intra-company integrated planning. Sales and operations planning. Internal integration and coherence of organisational plans. The role of information technology in integrated supply chain planning. Information management objectives for the supply chain. Key groups of information technology to support integrated planning processes.												
20	IT systems in transport and logistics (Silesian University of Technology)	Course objective: preparation for supply chain management using modern IT systems. Course content: The main tasks of cargo identification systems. Use of electronic information dissemination systems. Types of barcodes and their application. RFID identification systems. Identification of loads in integrated supply chains. Systems for determining the location of cargo based on	7		**v**			**v**				**v**		

		GPS. Cargo tracking and monitoring systems - track & trace. Use of database management systems in cargo management. Advanced supply chain management systems and examples of their application. Identification of loads in the global e-business supply chain. ERP systems, SCM. Specialized tools used for efficient management of warehouse processes are WMS systems. Competencies: ability to maintain the supply chain along with the identification of goods using databases. Skills in using IT systems in managing supply chains and warehouse processes in a manufacturing company												
21	Supply logistics in transport 1 (Silesian University of Technology)	The purpose of the course: to form the ability to formulate and solve the problems of logistics flows in the field of supply manufacturing plant, warehouse, etc. Course content: Importance of supply and distribution in the logistics system of a transport company. The main functions of	5			**v**					**v**		**v**	

		procurement processes. Organization of purchases of consumables. Supply of procurement and information technology. Supply market analysis. Selection of procurement sources, as well as qualitative and quantitative evaluation of suppliers. The strategic role of procurement in the enterprise. Buying strategies. Purchasing marketing. Purchasing procedures. Competences: skills and abilities to select suppliers by quantitative and qualitative methods for a particular product to be supplied.												
22	Supply logistics in transport 2 (Silesian University of Technology)	The purpose of the course: to form the ability to formulate and solve problems for the selection of piece, prefabricated and transport packaging in the supply chain. Course content: The importance of distribution in the logistics system of a transport company. The essence and structure of distribution channels. Characteristics of the main types of distribution	4			**v**	**v**				**v**		**v**	

		channels. The role of intermediaries in distribution channels: wholesalers, agents, retailers. Internet as a support tool for distribution logistics. Types of packaging and their role. Competencies: ability and skills to select distribution channels and select packaging for a specific product.												
23	Logistics infrastructure (Silesian University of Technology)	Course objective: to develop skills in solving problems related to the movement of goods using point and line infrastructure. Course content: Infrastructure of logistics processes. The main parameters, division and characteristics of the transport infrastructure: road, rail, inland waterways, sea routes. Current state of transport infrastructure in Poland and plans for its development. Infrastructure of warehouse processes, warehouse management. Point infrastructure in transport, transshipment terminals, logistics centers. Packaging systems infrastructure. Infrastructure	4			**v**	**v**				**v**		**v**	

		of data processing systems. Competencies: skills and abilities to analyze the logistics infrastructure for a selected storage and transport process.												
24	International Business and Logistics	The aim of the discipline is to study the basic principles of international business organisation and formation of global logistics systems and supply chain. After completing the course a Master student should know the principles and functions of international business organisation and global supply chain building; be able to apply the theoretical foundations of global supply chain building in professional activities. Content of the discipline: Basic provisions, concepts, principles and functions of international business. The place of logistics in international business. Theoretical foundations of the formation of international logistics systems and supply chains. Information and service provision of international	5					**v**				**v**		

		logistics. The relationship between the various components of the international logistics process. Analysis, planning and control in global supply chain management.												
25	Research methodology for the market of transport and logistics services	The purpose of the discipline is the formation of undergraduate skills in conducting research on the market of logistics services based on knowledge of methodological foundations. After completing the course, the undergraduate must know the principles, stages and methodology of the study; be able to apply the methodological foundations of the study of the market of transport and logistics services in professional activities. The content of the discipline: the current state of the world market of transport and logistics services. Problems and existing solutions. Technique and methods of research of the market of transport services. Improving the market of transport and logistics services in the	5								v	v	v	v

		Republic of Kazakhstan. Value Added Services.												
26	Methods of inspection of transport processes	The purpose of the discipline is the formation of undergraduate skills in conducting research on transport processes in production and in the field of cargo transportation. After completing the course, the undergraduate should know the technology of transport processes in production and in the field of cargo and passenger transportation; have the skills to conduct a survey of transport processes in order to make decisions on their improvement. The content of the discipline. Transport production. Transportation processes and systems. The technology of the cargo transport process. Transportation hubs. Passenger transport systems. The study of transport systems. Design of transport processes. Coordination of work modes.	5	v				v						v
27	Supply Chain Modeling	The purpose of the discipline is the formation of undergraduate skills in	5									v	v	v

		building conceptual and simulation models of logistics processes and supply chains. After completing the course, the undergraduate should know the stages of building conceptual and simulation models, simulation modeling methods; possess the skills of working in the environment of the AnyLogic simulation package, building simulation models, conducting experiments, processing the results of experiments, making optimal decisions. The content of the discipline: basic concepts and principles of modeling production and logistics processes. The basic concepts of simulation and the construction of a conceptual model. The method of discrete event (process) modeling. Software for modeling in production and logistics. Building simulation models in Anylogic simulation environment. Conducting experiments. Processing of the results of the experiment.												

28	Operational and strategic management (Silesian University of Technology)	The purpose of the course: the formation of undergraduate skills in strategic management and analysis. Course content: Business management system. Control subsystems. Institutional and functional approach to management. Economic, administrative and sociological approach to management. Levels (levels) of management. Management process and its elements. The essence and main features of the strategic and operational management of the enterprise. Strategy as a result of the process of strategic management - the concept, main elements, types of strategy. Stages of the Strategic Management Process (Strategic Management Models): Formulation and Implementation strategy. Strategic control. Operational planning: concept, features, types of operational plans. operational control. Competencies: knowledge of methods of strategic analysis	6								**v**			**v**

		and strategic planning. Ability to evaluate the strengths and weaknesses of the company, formulate and evaluate alternative strategic options.												
29	Forwarding processes (Silesian University of Technology)	The purpose of the course: Formation of skills in organizing the transport and forwarding process using various modes of transport. Course content: Legal basis and general information about forwarding and forwarding activities. The concept of a transport gesture - typical examples. Terms of delivery of goods and settlements in foreign trade. The course and organization of the process of freight forwarding using various modes of transport (road, rail, sea, inland water, air). Organization of transportation of oversized cargo. Organization of transportation of dangerous goods. Organization of transportation of perishable goods. Information technologies that ensure the activities of the forwarder. Customs clearance of goods.	4	**v**			**v**							

		Transport insurance. Special types of freight forwarding - freight fairs and exhibitions. Competences: skills and abilities to organize cargo transportation by various modes of transport.												
30	Presentations and negotiation techniques in business (Silesian University of Technology)	Course objective: Ability to prepare and conduct diploma and professional presentations, as well as negotiate. Course content: Types and methods of negotiations. Negotiator Skills. Techniques and rules of conduct during negotiations. Leader's Handbook. Preparation of premises and equipment. Social engineering of public speaking. Verbal and non-verbal communication. manipulation methods. Techniques for coping with stress during a presentation. Visual media: films, computer presentations in the Power Point system. Purposefulness and work with difficult questions. Preparation of posters and presentations based on the results of scientific work. Preparation for dissertation	2						**v**					

		defense and public speaking. Preparation for negotiations and negotiation exercises. Competencies: ability to prepare multimedia presentations on engineering issues. The skills of preparing the equipment of the hall and conducting a lecture using a set of equipment. Skills for evaluating presented multimedia presentations.												
31	Supply Chain Design for Production Systems	The purpose of the discipline is the formation of undergraduate skills in designing the supply chain of an enterprise and evaluating its effectiveness. After completing the course, the undergraduate should know the stages and principles of designing the supply chain of an enterprise, the performance indicators of the supply chain; possess the skills of designing an effective chain of a manufacturing enterprise. The content of the discipline: The basic principles of supply chain design. A systems approach and systems analysis in	5									**v**		

		supply chain design. Modeling of objects and control subjects in production systems. Criteria for the quality and effectiveness of the supply chain. Methods and algorithms for supply chain design. Formation of the organizational structure of the supply chain. Evaluation of the effectiveness and efficiency of the supply chain of the production system.												
32	Reverse logistics chains (Silesian University of Technology)	The purpose of the course: the ability to design tasks associated with reverse supply chains. Course content: Basic concepts related to waste. Waste types and waste systems. Environmental management systems. Recycling oriented design. Means of transportation and storage of waste. Industrial waste and their transport. Industrial methods of recycling materials by their types and origin. Directives on waste and end-of-life vehicles. Collection, storage and transportation of used	2					**v**						

		technical means Methods for dismantling and recycling used vehicles and electrical equipment. Competencies: ability and skills to build a reverse supply chain with a choice of mode of transport.												
33	Thesis Seminar (Silesian University of Technology)	Course Objectives: the student will get acquainted with the principles of planning, conducting and developing research results, and will also receive preparation for the content, formal and editorial preparation of the content of the dissertation work and its visual presentation. Contents: General characteristics of the dissertation, Types of dissertations, Content structure and division into chapters depending on the type of work. Selection of literature. Development of source materials, rules for the use of references to literature, bibliography. Determination of the topic, purpose and scope of the dissertation work and the schedule for its implementation. Rules for	5			**v**					**v**			

		writing a dissertation, technical vocabulary, division of content into the main part and applications. Choice of the method of bench, model, measurement and optimization tests: development of a test program. Multimedia presentation of partial results of the work. Rules for the preparation and presentation of a computer presentation. Competences: the ability to review the literature on the topic of the dissertation; research results processing skills; preparation of a report on the work, preparation of its visual presentation and presentation of the results.												
34	The current state of interaction of all types of transport	The purpose of the discipline is the formation of undergraduate skills in organizing the effective interaction of various types of transport based on the knowledge of their technical and operational characteristics. After completing the course, the undergraduate should know the methods and modern technologies of	5		**v**						**v**			

		transportation by various modes of transport; possess the skills of organizing the transportation process with the participation of various modes of transport; be able to carry out economic calculations of the assessment of the transportation process. Content of the discipline: Functioning of main modes of transport. Interaction of modes of transport in the transportation process, at the points of cargo transshipment, transfer of passengers and in mixed direct transportation. An integrated approach to the organization of transportation on all modes of transport. The choice of the optimal transportation option, methods of interaction between modes of transport. Technical, technological, legal, economic and information spheres of interaction between different modes of transport. Modern technologies of transportation on various												

		modes of transport. Economic models in the calculation of the assessment of optimal options for the transportation of goods and the infrastructure of transshipment points.												
35	Modern transport technologies (Silesian University of Technology)	The purpose of the course: the ability to formulate and solve transport problems in the field of transport technologies in the transport services market. Course content: The main technologies of transportation by road. The main technologies of transportation on railway transport. Linear infrastructure of railway transport. Infrastructure of the railway transport hub. Selected technologies of passenger and freight transportation on railway transport. Inland navigation infrastructure. Basic transport technologies in inland navigation. Linear-point infrastructure of inland navigation. Technology of loading operations in transport. Selected technologies of	2		v			v						

		transportation and loading and unloading operations in combined transport. Competences: Knowledge of methods of cargo selection, selection of equipment for cargo and transport operations. Ability to conduct a technical analysis of the functioning of transport rolling stock. Transport planning skills.												
36	Enterprise Supply Chain Management	The purpose of the discipline is to study modern trends of enterprise supply chain management. After completing the course, a master's student should know the basic principles of supply chain management; possess the skills to build a supply chain and control key processes in the supply chain. Course content: modern trends in planning, design and development of supply chains. Processes of controlling, monitoring and decision-making in supply chain management at the strategic, tactical and operational levels with the use of digital technology.	5	**v**								**v**		**v**
37	Sustainable logistics	The purpose of the discipline	5								**v**			

	and transport	is to study the direction of research on the creation of a sustainable logistics system and supply chain. After completing the course, the undergraduate should know the basic concepts and principles of a sustainable logistics system; be able to identify problems in the functioning of logistics systems in the field of "Green Logistics"; have the skills to build sustainable logistics systems and supply chains. Discipline content: Applied aspects of sustainable logistics, supply chain and transport. Analysis of the impact of environmental decisions on logistics systems and transport. Sustainable logistics, closed supply chains, reverse logistics. Sustainable Supply Chain Strategy.												

5. Curriculum of educational program

NON-PROFIT JOINT STOCK COMPANY
"KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY NAMED AFTER K.I. SATBAYEV"

SATBAYEV UNIVERSITY

«APPROVED»
Decision of the Academic Council
NPJSC «KazNRTU
named after K.Satbayev»
dated 06.03.2025 Minutes № 10

WORKING CURRICULUM

Academic year	**2025-2026 (Autumn, Spring)**
Group of educational programs	**M152 - "Logistics (by industries)"**
Educational program	**7M11302 - "Logistics"**
The awarded academic degree	**Master of Sciences**
Form and duration of study	**full time (scientific and pedagogical track) - 2 years**

Discipline code	Name of disciplines	Block	Cycle	Total ECTS credits	Total hours	lek/lab/pr Contact hours	in hours SIS (including TSIS)	Form of control	Allocation of face-to-face training based on courses and semesters				Prerequisites
									1 course		2 course		
									1 sem	2 sem	3 sem	4 sem	
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED)													
CYCLE OF BASIC DISCIPLINES (BD)													
M-1. Module of basic training (university component)													
LNG213	Foreign language (professional)		BD, UC	3	90	0/0/30	60	E	3				
HUM214	Psychology of management		BD, UC	3	90	15/0/15	60	E	3				
LOG200	Analysis and forecasting of traffic flows	1	BD, CCH	5	150	30/15/0	105	E	5				
MNG782	Sustainable development strategies	1	BD, CCH	5	150	30/0/15	105	E	5				
LOG233	Research methodology	2	BD, CCH	5	150	30/0/15	105	E	5				
MNG781	Intellectual property and research	2	BD, CCH	5	150	30/0/15	105	E	5				
HUM212	History and philosophy of science		BD, UC	3	90	15/0/15	60	E		3			
HUM213	Higher school pedagogy		BD, UC	3	90	15/0/15	60	E		3			
TRA206	Automated systems for solving logistics problems	1	BD, CCH	5	150	30/15/0	105	E		5			
LOG205	Simulation modeling of logistics processes and systems	1	BD, CCH	5	150	30/15/0	105	E		5			
M-3. Practice-oriented module													
AAP273	Pedagogical practice		BD, UC	8				R			8		
CYCLE OF PROFILE DISCIPLINES (PD)													
M-2. Module of professional activity (university component, component of choice)													
LOG203	Actual problems of transport and logistics systems and processes		PD, UC	5	150	30/0/15	105	E	5				
TRA222	Sustainable logistics and transport		PD, UC	5	150	30/0/15	105	E	5				
TRA243	Strategic logistics cost management		PD, UC	5	150	30/0/15	105	E		5			
LOG204	Logistic tasks modeling	1	PD, CCH	5	150	30/15/0	105	E		5			
LOG231	Enterprise Supply Chain Management	1	PD, CCH	5	150	30/0/15	105	E		5			
LOG206	Research methodology for the market of transport and logistics services	1	PD, CCH	5	150	30/0/15	105	E		5			
LOG223	The current state of interaction of all types of transport	2	PD, CCH	5	150	30/0/15	105	E		5			
TRA230	Innovative Technology in the Supply Chain	2	PD, CCH	5	150	30/15/0	105	E		5			
TRA224	Strategic inventory management in the supply chain		PD, UC	5	150	30/0/15	105	E			5		

LOG230	International Business and Logistics	1	PD, CCH	5	150	30/0/15	105	E			5		
TRA208	Methods of inspection of transport processes	1	PD, CCH	5	150	30/0/15	105	E			5		
LOG234	International transportation corridors	2	PD, CCH	5	150	30/0/15	105	E			5		
LOG232	Integrated Supply Chain Planning	2	PD, CCH	5	150	30/0/15	105	E			5		
LOG208	Supply Chain Design for Production Systems	3	PD, CCH	5	150	30/0/15	105	E			5		
LOG207	Supply Chain Modeling	3	PD, CCH	5	150	30/15/0	105	E			5		
M-3. Practice-oriented module													
AAP269	Research practice		PD, UC	8				R				8	
M-4. Experimental research module													
AAP268	Research work of a master's student, including internship and completion of a master's thesis		RWMS	4				R	4				
AAP268	Research work of a master's student, including internship and completion of a master's thesis		RWMS	4				R		4			
AAP251	Research work of a master's student, including internship and completion of a master's thesis		RWMS	2				R			2		
AAP255	Research work of a master's student, including internship and completion of a master's thesis		RWMS	14				R				14	
M-5. Module of final attestation													
ECA212	Registration and protection of the master thesis		FA	8								8	
Total based on UNIVERSITY:									30	30	30	30	
									60		**60**		

Number of credits for the entire period of study

Cycle code	Cycles of disciplines	Credits			
		Required component (RC)	University component (UC)	Component of choice (CCH)	Total
GED	Cycle of general education disciplines	0	0	0	0
BD	Cycle of basic disciplines	0	20	15	35
PD	Cycle of profile disciplines	0	28	25	53
Total for theoretical training:		**0**	**48**	**40**	**88**
RWMS	Research Work of Master's Student				24
ERWMS	Experimental Research Work of Master's Student				0
FA	Final attestation				8
TOTAL:					**120**

Decision of the Educational and Methodological Council of KazNRTU named after K.Satpayev. Minutes № 3 dated 20.12.2024

Decision of the Academic Council of the Institute. Minutes № 3 dated 29.11.2024

Signed:

Governing Board member - Vice-Rector for Academic Affairs — Uskenbayeva R. K.

Approved:

Vice Provost on academic development — Kalpeyeva Z. B.

Head of Department - Department of Educational Program Management and Academic-Methodological Work — Zhumagaliyeva A. S.

Supervisor - School of Transport Engineering and Logistics — Abdullayev S. C.

Department Chair - Logistics — Bektilevov A. Yu.

Representative of the Academic Committee from Employers ____Acknowledged____ — Sharubekov M.