Institute of Project Management
Department of "Logistics"

EDUCATIONAL PROGRAM
7M11302 – «Logistics»
Code and name of educational program

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 2023

Educational program _____
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

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

Educational program 7M11302 – «Logistics»
code and name of educational program

was developed by Academic committee based on direction «7M113 Transport services »

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F KazNRTU 703-05 Educational program

F KazNRTU 703-05 Educational program

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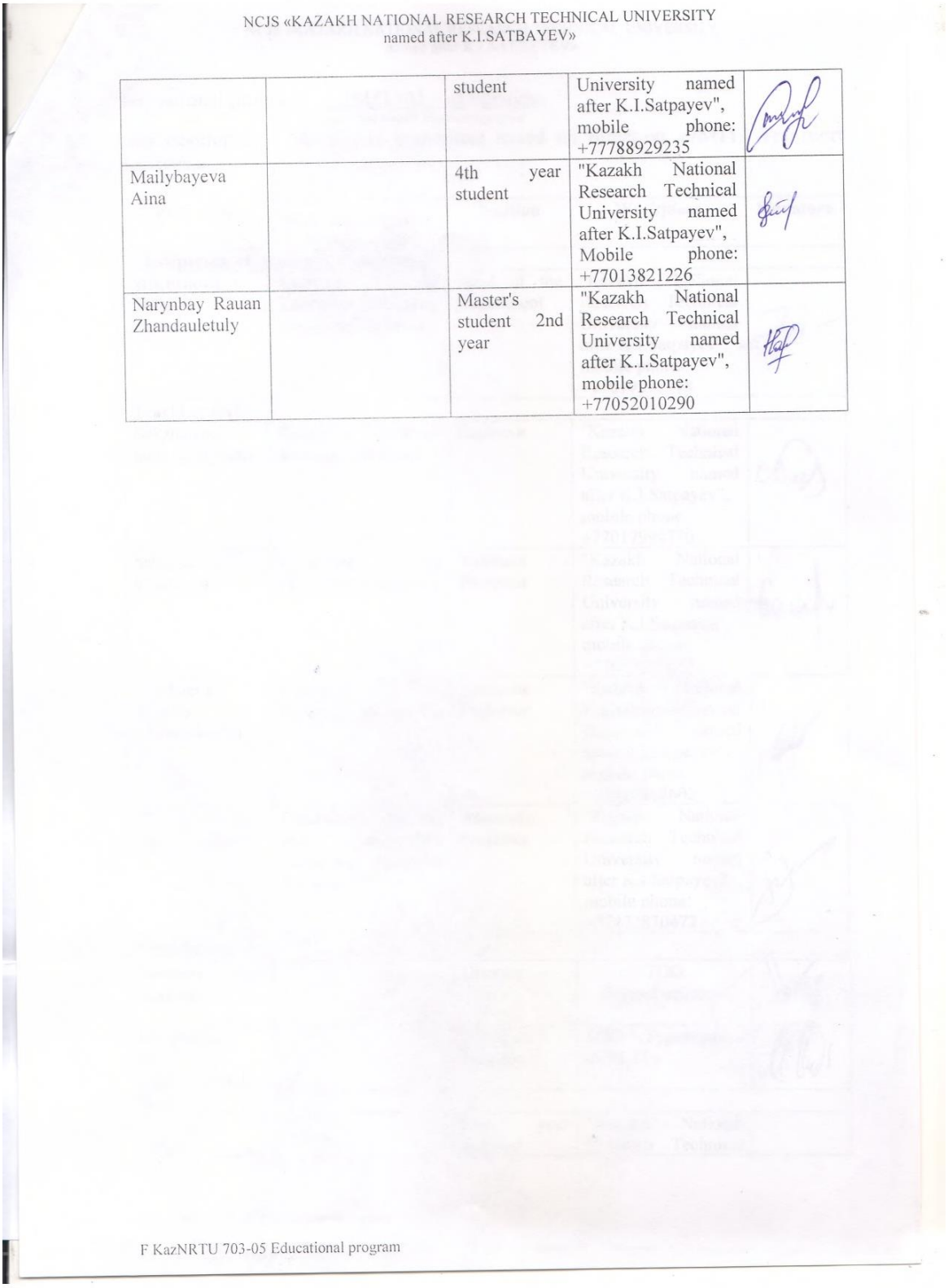

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F KazNRTU 703-05 Educational program

List of abbreviations and designations

EP	Educational program
NQF	National Qualifications Framework
SQF	Sectoral Qualifications Framework

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.

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.

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	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	EP 7M11302 - "Logistics" is developed in accordance with the

	educational program	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 modern teaching methods and educational technologies of pedagogical activity, communication skills, foreign language in scientific-pedagogical and research activities. 2. The ability to apply a philosophical worldview and approach to research, the principles and laws of philosophical thinking in the field of scientific research. 3. Identifies current issues in sustainable logistics, supply chain, inventory and costs management strategies, intelligent transport systems in order to develop ways to reduce environmental emissions and maintain a favourable ecological environment. 4. 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. 5. 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. 6. 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. 7. Independently conducts research on transport and logistics objects and processes, transport systems in order to reasonably makes scientific decisions. 8. 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. 9. Applies automated systems, communications and automation systems in road transport in the study of transport processes, transport services and logistics functions. 10. Formulates complex supply chain and inventory management problems and identifies solutions. 11. 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 technical characteristics and features of transport, vehicles and equipment.
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 of Science in Services by EP 7M11302 - Logistics
18	Developer(s) and authors	-

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	English language (professional)	The course is designed for undergraduates of technical specialties to improve and develop foreign language communication skills in professional and academic fields. The course introduces students to the general principles of professional and academic intercultural oral and written communication using modern pedagogical technologies.	5	v										
2	History and philosophy of science	The subject of philosophy of science, dynamics of science, specifics of science, science and pre-science, antiquity and the formation of theoretical 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,	3		v									

		engineering and technology, specifics of engineering sciences, ethics of science, social and moral responsibility of a scientist and engineer.												
3	Higher School Pedagogy	Undergraduates will master the methodological and theoretical foundations of higher school pedagogy, plan and organize the processes of teaching and upbringing, master the communicative technologies of subject-subject interaction between a teacher and a master in the educational process of a university.	3	v										
4	Psychology of management	The discipline studies the modern role and content of psychological aspects in managerial activity. The improvement of the psychological literacy of the student in the process of implementing professional activities is considered. Self-improvement in the field of psychology and studying the composition and structure of management activities, both at the local level and abroad. The psychological feature of modern managers is	3	v										

		considered.												
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**						
6	Analysis and forecasting of traffic flows	Purpose: to form a complex of theoretical knowledge of the basics of system analysis and forecasting of traffic flows and systems. After completing the course, the Master student should demonstrate the ability to analyse and forecast traffic flows. The Master student should know quantitative	5				**v**			**v**				

		and qualitative methods of forecasting traffic flows; be able to: - determine the indicators of transport systems for analysis; - apply the methods of analysis in practice; - apply methods of transport flows forecasting. Contents: Main characteristics of transport systems. Characteristics of freight flows. Existing approaches to traffic flow analysis. Models and methods of analysis and forecasting of traffic flows; time series and forecasting methods in research.												
7	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	5				**v**							

		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.												
8	Foreign language (not English)	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 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	2	**v**										

		adequately perceive the speech of the interlocutor.												
9	Intelligent transport systems	The aim of the discipline is to form a theoretical basis of knowledge of the principles of operation, architecture and design of intelligent transport systems. After completing the course a Master student should know the current state of the legal and normative-technical regulation of information support of transport industry in the RK; get theoretical and practical knowledge in the field of intelligent transport systems; be able to apply promising methods of solving professional tasks based on knowledge of global trends in the development of intelligent transport systems. Content of the discipline: Basic concepts related to Intelligent Transport Systems (ITS). ITS classification. The main areas of application of ITS. ITS and logistics. Introduction to ITS Project Development Stages of the development of ITS projects.	5			v			v					

		Basic definitions. Principles of developing technical specifications for the justification of the ITS project. Development of the architecture of performance indicators for the ITS project. ITS models. Development of the ITS project. The structure and composition of the ITS system project. Examples of the use of ITS in logistics systems. Promising ITS in logistics and supply chains												
10	Research methodology	The course is aimed at studying the laws, principles, concepts, terminology, content, specific features of the organization and management of scientific research using modern methods of scientometry. In the course of training, undergraduates will be able to choose methods of planning and organizing scientific research. They will study and master the mechanism of scientific search, analysis, conducting experiments, organizing surveys, compiling questionnaires, standards and	5		**v**	**v**				**v**				

		regulations for the registration of research results. Gain skills in the preparation and execution of documents for scientific projects, reports, publications for seminars and conferences.												
11	Scientific research methodology (Silesian University of Technology)	The purpose of the discipline 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.	2				v			v				

		Competences: ability and skills to plan and conduct the necessary research and write a master's thesis correctly.												
12	Modern problems of transport science, engineering and technology	The course provides for the study of the history and methodology of transport science, basic research methods of transport systems, research methods in the field of transport science, engineering and technology. Modern trends and trends in the study of science and technology are being studied, and they will focus on specific problems of transport science. Methods of solving optimization problems of transport systems management, application of mathematical statistics in optimization of transport processes, modeling of transportation and operational processes in transport are considered. Methods of planning and organization of scientific research are given.	5				v		v	v		v		v
Cycle of profile disciplines University component														
13	Actual problems of transport and	Learning objectives: the study of the current state of	5					v	v		v			

	logistics systems and processes	transport systems and 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	5				**v**							

		the discipline: Mathematical 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	5			v	v						v	

		optimal inventory levels. 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.	5			v	v							

		Cost accounting in space and 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	Outsourcing of transport services	The aim of the course is to develop the knowledge and professional skills of master students in managing logistics business processes when a company chooses a logistics outsourcing strategy as a promising direction of development aimed at increasing the competitiveness of a company operating in a service economy. Course content: The problem of insourcing-outsourcing of transport and logistics services as a kind of the problem MOU (make or buy) - "Make or buy." Characteristics of the main reasons for decision-making MOU. Economic and strategic factors. Costs in logistics in the context of logistics functions, classification of logistics costs. Costs and price. Strategic Factors in MOB Decision Making. Qualitative indicators of logistics service. Characteristics, dynamics and structure of the world market for logistics services	5						v	v				v

		and outsourcing.ing.												
18	Innovative Technology in the Supply Chain	The aim of the discipline is 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	5					**v**	**v**					

		the main mechanisms for their implementation.												
19	Integrated Supply Chain Planning	The goal of the discipline is to acquire skills in supply chain planning using modern information technologies. A modern integrated supply chain planning system. Types of integrated supply chain planning. Supply chain planning and forecasting methods. Development of the idea of integration in supply chain management Internationalization and globalization of the world economy and their impact on the competitiveness of supply chains. Intercompany integrated planning. Sales and operations planning. Internal integration and coherence of organization plans. The role of information technology in integrated supply chain planning Tasks of working with information in the supply chain. Major IT teams to support integrated planning processes.	5			**v**		**v**	**v**				**v**	
20	IT systems in transport and logistics	Course objective: preparation for supply chain management using modern	7					**v**	**v**					**v**

	(Silesian University of Technology)	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 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 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.	5			v	v						v	
22	Supply logistics in transport 2	The purpose of the course: to form the ability to formulate	4			v	v				v		v	

	(Silesian University of Technology)	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 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,	4			v	v				v		v	

		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 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 logistics formation. 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. Content of the discipline: Basic provisions, concepts, principles and	5						**v**					

		functions international logistics. Theoretical foundations for the formation of international logistics systems and supply chains. Information and service support of international logistics. Relationships between various components of the international logistics process. Analysis, planning and control in the management of global supply chains.												
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	5							**v**	**v**			**v**

		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 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.	5							v		v		

		The study of transport systems. Design of transport processes. Coordination of work modes.												
27	Supply Chain Modeling	The purpose of the discipline is the formation of undergraduate skills in 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.	5				**v**		**v**					

		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.	6			v				v				

		Strategic control. Operational planning: concept, features, types of operational plans. operational control. Competencies: knowledge of methods of strategic analysis 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	4			v				v				

		transportation of dangerous goods. Organization of transportation of perishable goods. Information technologies that ensure the activities of the forwarder. Customs clearance of goods. 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	2	**v**										

		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 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	5						**v**					

		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 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	2											**v**

		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 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	5			v							v	

		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 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	Automation systems for road transport	The course examines the theoretical principles and categories of system analysis, general theory of systems, theories of information, methods of	5									v		v

		system analysis for subsequent use in making technical and managerial decisions used in the creation and operation of information technologies, automated control systems for the schedule of completed traffic, the functional composition of tasks and automated workplaces of technical personnel of a motor transport company, automated systems management, business processes of technological center enterprises, business processes of support in corporate transport service centers.												
35	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.												
36	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.												
37	Enterprise Supply Chain Management	The course content: the concept of logistics system and enterprise supply chain management; the current trends in the development of supply chains; strategic planning and methods of designing enterprise supply chains; controlling of key processes in supply chains; design of logistics systems and supply chains; inventory management in the supply chain; Decision-making processes in supply chain management at strategic, tactical and operational levels. The main methods of controlling material flows and the stages of building a supply chain management system. Integrated	5							v		v		

		management and coordination concepts. Information Technology; information integration of processes in supply chain management.												
38	Sustainable logistics and transport	The purpose of the discipline 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			v								

Practice-oriented module														
39	Pedagogical practice	Goals of pedagogical practice: - organization of the pedagogical process based on the developed creative approaches and methods of pedagogical mastery, mastering the skills of performing pedagogical functions in the educational process; - mastering the skills and abilities of applying scientific research material and methodology of science in pedagogical activity; - formation of independence of undergraduates in rationalization, organization and planning of their pedagogical activity. Pedagogical practice involves mastering the following professional and pedagogical skills: - to orient oneself in the theoretical foundations of the science of the taught subject; - to independently design, implement, evaluate and adjust the educational process; - to use modern	6											

		innovations in the process of vocational training.												
40	Research practice	The purpose of the practice is to increase the level of training of masters by mastering in the learning process methods, techniques and skills of performing research, developing their creative abilities, independence, initiative in studies and future activities. Tasks of research practice: formation of undergraduates' understanding of the current state of transport services; conducting career guidance work among undergraduates, allowing them to choose the direction and topic of research; discussion of scientific articles, monographs, research results, regulatory documents on the profile of the master's program; teaching undergraduates the skills of academic work, including the preparation and conduct of research, writing scientific papers; developing undergraduates' skills of public speaking, scientific discussions and presentation	4											

		of research results.												

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 KazNRTU named after K.Satpayev
M.K. Begentaev
«__» ____ 2023 y.

CURRICULUM
of Educational Program on enrollment for 2023-2024 academic year

Educational program 7M11302 - "Logistics"
Group of Educational programs M152 - Logistics(by branches)

Form of study: full-time **Duration of study: 2 year** **Academic degree: master of Science in Service**

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			
								I course		2 course	
								1 semester	2 semester	3 semester	4 semester
CYCLE OF BASIC DISCIPLINES (BD)											
M-1. Module of basic training (university component)											
LNG210	English language (professional)	BD UC	5	150	0/0/3	105	E	5			
HUM214	Psychology of management	BD UC	3	90	1/0/1	60	E		3		
HUM212	History and philosophy of science	BD UC	3	90	1/0/1	60	E		3		
HUM213	Higher school pedagogy	BD UC	3	90	1/0/1	60	E	3			
component of choice											
LOG200	Analysis and forecasting of traffic flows	BD CCH	5	150	2/1/0	105	E	5			
TRA168	Intelligent transport systems			150	2/0/1	105	E				
LOG320	Research methodology	BD CCH	5	150	2/0/1	105	E	5			
TRA203	Modern problems of transport science, engineering and technology			150	2/0/1	105	E				
TRA206	Automated systems for solving logistics problems	BD CCH	5	150	2/1/0	105	E		5		
LOG205	Simulation modeling of logistics processes and systems			150	2/1/0	105	E				
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	2/0/1	105	E	5			
LOG204	Logistic tasks modeling	PD UC	5	150	2/1/0	105	E	5			
TRA243	Strategic logistics cost management	PD UC	5	150	2/0/1	105	E			5	
TRA224	Strategic inventory management in the supply chain	PD UC	5	150	2/0/1	105	E			5	
component of choice											
LOG230	International Business and Logistics	PD CCH	5	150	2/0/1	105	E				
LOG231	Enterprise Supply Chain Management			150	2/0/1	105	E			5	
TRA208	Supply Chain Design for Production Systems			150	2/0/1	105	E				
TRA222	Sustainable logistics and transport	PD CCH	5	150	2/0/1	105	E				
TRA207	Automation systems for road transport			150	2/1/0	105	E				
LOG206	Research methodology for the market of transport and logistics services			150	2/0/1	105	E		5		
TRA446	The current state of interaction of all types of transport	PD CCH	5	150	2/0/1	105	E		5		
TRA230	Innovative Technology in the Supply Chain			150	2/1/0	105	E				
TRA244	Outsourcing of transport services	PD CCH	5	150	2/0/1	105	E				
LOG232	Integrated Supply Chain Planning			150	2/0/1	105	E			5	
LOG208	Supply Chain Design for Production Systems	PD CCH	5	150	2/1/0	105	E				
LOG207	Supply Chain Modeling			150	2/1/0	105	E			5	
M-3. Practice-oriented module											
AAP229	Pedagogical practice	BD UC	6						6		
AAP269	Research practice	PD, CCH	8								8
M-4. Experimental research module											

AAP251	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	2					2			
AAP241	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	3						3		
AAP254	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	5							5	
AAP255	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	14								14
M-5. Module of final attestation											
ECA212	Preparation and defense of a master's thesis	FA	8								8
Silesian University of Technology											
LOG215	Foreign language (not English)	BD CCH	2	60	0/0/2	0	R			2	
LOG222	Scientific research methodology	BD CCH	2	60	2/0/0	0	R			2	
LOG216	IT systems in transport and logistics	PD CCH	7	210	4/2/0	30	E			7	
LOG219	Supply logistics in transport 1	PD CCH	5	150	2/0/0	90	QP			5	
LOG217	Forwarding processes	PD CCH	4	120	2/0/0	60	QP			4	
LOG214	Operational and strategic management	PD CCH	6	180	4/0/2	0	E			6	
LOG221	Logistics infrastructure	PD CCH	4	120	2/0/0	60	QP			4	
LOG212	Presentations and negotiation techniques in business	PD CCH	2	60	2/0/0	0	QP				2
LOG213	Reverse logistics chains	PD CCH	2	60	2/0/0	0	QP				2
LOG218	Modern transport technologies	PD CCH	2	60	1/0/1	0	QP				2
LOG220	Supply logistics in transport 2	PD CCH	4	120	3/0/0	30	E				4
ECA210	Thesis Seminar	PD CCH	5	150	2/0/0	90	R				5
ECA211	Master's thesis	FA	15								15
	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			
			university component (UC)	component of choice (CCH)	Total
BD	Cycle of basic disciplines		20	15	35
PD	Cycle of profile disciplines		28	25	53
	Total for theoretical training:	*0*	*48*	*40*	*88*
	RWMS				*24*
FA	Final attestation	8			8
	TOTAL:	**8**	**48**	**40**	**120**

Decision of the Scientific Council of KazNRTU named after K.Satbayev. Protocol № 3 27.10.2022 y.

Decision of the Educational and Methodological Council of KazNRTU named after K.Satpayev. Protocol № 2 21.10.2022 y.

Decision of the Academic Council of the Project Management Institute named after E.A.Turkebayev. Protocol № 3 "17" october 2022 y.

Vice-Rector for Academic Affairs **B.A. Zhautikov**

Project Management Institute Director **B.B. Amralinova**

Head of "Logistics" Department **G.S. Mukhanova**

Representative of the Council from employers **S.M. Medetbekov**