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

EDUCATIONAL PROGRAM
6B11301 - «Transport services»

Code and classification of the field of education: **6B11 Services**
Code and classification of training directions: **6B113 Transport services**
Group of educational programs: **6B11301 Transport services**
Level based on NQF: **6**
Level based on IQF: **6**
Study period: **4**
Amount of credits: **240**

Almaty 2024

Educational program «6B11301- Transport services»
code and name of educational program
was approved at the meeting of K.I. Satbayev KazNRTU Academic Council
Minutes №5 __ dated «24» November 2022.
was reviewed and recommended for approval at the meeting of K.I. Satbayev KazNRTU Educational and Methodological Council

Minutes №3 dated «17» November 2022.

Educational program «6B11301- Transport services»
was developed by Academic committee based on direction «6B11301- Transport services»

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Оглавление

List of abbreviations and notations

EP - educational program
BC - basic competences
PC - professional competences
LO - learning outcomes
MOOC - Massive Open Online Courses
NQF - National Qualifications Framework
SQF - Sectoral Qualifications Framework

1. Description of the educational program

- EP 6B11301 "Transport Services" regulates educational objectives, expected learning outcomes of students, conditions and technologies of educational process implementation, evaluation and analysis of the quality of students' training.
- The EP includes the curriculum, description of disciplines, learning outcomes and other materials to ensure quality education of students.
- Graduates of this EP in the direction of training 6B11301 "Transportation Services" are engaged in:
- 1) analyzing the state of existing transport systems and networks, transport and logistics infrastructure;
- 2) development and implementation of optimal transportation-technological routes of cargo delivery based on the principles of logistics;
- 3) ensuring safety of transportation process in different conditions.
- Professional activity of the graduate of EP 6B11301 "Transport Services" is aimed at the implementation of training of specialists in the field of logistics and organization of transportation.
- The graduate of EP 6B11301 "Transportation Services" can carry out professional activity:
- - in transportation companies;
- - in warehousing.
- The objects of professional activity are:
- - Organizations and enterprises of public transport, engaged in the transportation of passengers, cargo, freight and luggage, the provision of infrastructure for use, the performance of loading and unloading work, regardless of their form of ownership and organizational and legal forms;
- traffic safety services of public and private transportation companies;
- logistics services of production and trade organizations;
- freight forwarding enterprises and organizations;
- state transport inspection services, marketing services and units for the study and maintenance of the transportation services market;
- production and sales systems, organizations and enterprises of information support of production and technological systems; - research and design organizations engaged in activities in the field of development of transport and logistics services, organization and safety of traffic;
- organizations carrying out educational activity on the basic professional educational programs and on the basic programs of professional training.

Subjects of professional activity:

- transportation, organization of multimodal transportation, value added services, warehousing, routing and dispatching.

Types of professional activities

The bachelor who graduated from EP 6B11301 "Transportation Services" in the direction of training 6B113 "Transportation Services" is prepared for the following types of professional activity:

- production-technological;
- organizational and managerial;
- research;
- scientific and pedagogical;
- design and construction.

2. Goal and objectives of the educational program

Purpose of the EP: To provide the labor market with qualified personnel in the field of logistics and organization of transport services, formation of knowledge, skills and abilities that allow them to make effective management decisions in a professional environment.

EP Objectives:

Task 1: Preparation of a graduate capable of communicating orally and in writing in Kazakh, Russian and foreign languages to solve problems of interpersonal and professional nature, demonstrating new knowledge, skills and abilities in the field of logistics and organization of transportation;

Task 2: Preparation of a graduate able to apply information and communication technologies in professional activities to solve various applied problems in the field of transportation, warehousing with the help of methods of mathematical and statistical analysis and modeling;

Task 3: Preparation of a graduate with acquired competences of development of possible routes, schemes of cargo transportation from the point of departure to the point of destination, design of logistics processes when making strategic, tactical and operational decisions in the logistics system;

Task 4: Preparation of a graduate who knows the basic rules and procedure of registration of shipping, transportation and forwarding documents for cargo flow management in terminals, multimodal transportation, customs, production and warehousing complex;

Task 5: Preparation of a graduate capable of controlling logistics processes, analyze and evaluate logistics risks and make appropriate decisions to prevent and reduce them.

3. Requirements for assessing the learning outcomes of the educational program

The educational program is developed in accordance with the State obligatory standards of higher and postgraduate education, approved by the order of the Minister of Science and Higher Education of the Republic of Kazakhstan from July 20, 2022 № 2 (registered in the Register of state registration of normative legal acts under № 28916) and reflects the learning outcomes, on the basis of which

are developed curricula (work study plans, individual study plans of students) and work study programs for disciplines (syllabus). Mastering of disciplines not less than 10% of the total volume of credits of the educational program with the use of MOOCs on the official platform https://polytechonline.kz/cabinet/login/index.php/.

Assessment of learning outcomes is conducted by developed test tasks within the educational program in accordance with the requirements of the state compulsory standard of higher and postgraduate education.

During the assessment of learning outcomes for students are created uniform conditions and equal opportunities to demonstrate the level of their knowledge, skills and abilities.

When conducting interim certification in online form, online proctoring is applied.

4. Passport of the educational program

4.1. General information

№	Название поля	Примечание
1	Area code and classification field of education	6B11 Services
2	Code and classification of training directions	6B113 Transportation services
3	Group of educational programs	B095 Transportation services
4	Name of educational program program	6B11301 Transportation services
5	Brief description of the educational program	EP 6B11301-Transportation Services defines program educational objectives, student learning outcomes, necessary conditions, content and technologies for the implementation of the educational process, evaluation and analysis of the quality of students during training and after graduation. The EP includes the curriculum, content of disciplines, learning outcomes and other materials to ensure quality education of students.
6	Purpose of the EP	To provide the labor market with qualified personnel in the field of logistics and organization of transport services, formation of knowledge, skills and abilities enabling them to make effective managerial decisions in the professional environment.
7	Type of EP	New EP
8	Level according to the NQF	6
9	Level according to the SQF	6
10	Distinctive features of the EP	No
11	List of competencies of the	**B - Basic knowledge, skills and abilities**

	educational program:	B1 - Possession of basic knowledge in the field of natural science (social, humanitarian, economic) disciplines, contributing to the formation of a highly educated person with a broad outlook and culture of thinking; B2 - Possession of skills of handling modern technology, ability to use information technologies in the sphere of professional activity; B3 - Possession of skills of acquisition of new knowledge necessary for daily professional activity and further education in the magistracy; B4 - Possession of one of the languages of the far abroad at the level not lower than the spoken one; B5 - Possession of basic knowledge in the field of general theoretical disciplines, contributing to the formation of the foundations of a scientific worldview, the development of logical thinking, the ability to analyze physical processes, the ability and willingness to participate in the development of modern theoretical and experimental research methods; **P - Professional competencies:** P1 - a wide range of theoretical and practical knowledge in the professional field; P2 - readiness to participate in the team of performers in the development of transportation and transport-logistic processes, their elements and technological documentation; P3 - ability to choose transportation and transport-technological machines and equipment of various purposes taking into account the influence of external factors and the requirements of safe and efficient operation and cost; P4 - ability to master technologies and methods of cargo and passenger transportation; P5 - knowledge of technical conditions and rules of rational operation of transportation and transport-technological machines and equipment; P6 - ability to assess the risk and determine measures to ensure safe and efficient operation of vehicles; P7 - ability to plan and organize the work of transport complexes of cities and regions, organization of rational interaction of transport types, which make up a single transport system, in the transportation of passengers, luggage, cargo and cargo; P8 - ability to organize rational interaction of different types of transport in a unified transport system and effective commercial work at the object of transport, development and implementation of rational methods of work with the client; P9 - ability to monitor and controlling logistics processes; P10 - ability to search for ways to improve the quality of transport and logistics services for cargo owners, development of commodity market

		infrastructure and distribution channels, as well as to determine the parameters of optimization of logistics transport chains and links, taking into account the criteria of optimality; P11 - ability to provide consignors and consignees with services: on execution of transportation documents, delivery and receipt, importation and exportation of cargoes; on performance of loading and unloading and warehousing operations; on preparation of rolling stock; on cargo insurance, customs clearance of cargoes and vehicles; on provision of information and financial services; P12 - ability to develop the most effective schemes of organization of vehicle traffic and apply the latest technologies of vehicle traffic management; P13 - ability to identify priorities for solving transport problems taking into account economic efficiency and environmental safety indicators and use modern information technologies as a tool to optimize management processes in the transport complex; P14 - ability to design logistics systems of cargo and passenger delivery, selection of logistics intermediary, carrier and forwarder on the basis of multi-criteria approach; P15 - ability to develop projects and implement: modern logistics systems and technologies for transport organizations, technologies of intermodal and multimodal transportation, optimal routing; **O - General human, socio-ethical competencies:** O1 - knowledge of traditions and culture of the peoples of Kazakhstan and compliance with the norms of business ethics, possession of ethical and legal norms of behavior O2 - to be tolerant to traditions, culture of other peoples of the world; O3 - knowledge of the basics of the legal system and legislation of Kazakhstan; O4 - knowledge of trends of social development of society, ability to adequately navigate in various social situations; O5 - awareness of the social significance of their future profession, possessing high motivation to perform professional activities; O6 - possession of basic methods of protection of production personnel and population from possible consequences of accidents, catastrophes, natural disasters; **C - Specific and Management Competencies:** C1- independent management and control of the processes of work and learning activities within the framework of the strategy, policy and goals of the organization, discussion of the problem, argumentation of conclusions and competent operation of information; C2 - mastery of the basics of economic knowledge;

		C3 - knowledge and understanding of the goals and methods of state regulation of the economy, the role of the public sector in the economy; C4 - ability to search, analyze and evaluate information for the preparation and adoption of managerial decisions, readiness to bear responsibility for them, as well as to give assignments, manage the actions of others, taking into account the abilities, capabilities and motivation of employees; C5 - ability to navigate modern information flows and adapt to dynamically changing phenomena and processes in the world economy; C6 - to be flexible and mobile in various conditions and situations related to professional activity; C7 - knowledge of classification and assignments of types of transport and means of transportation, modes of transportation, functional areas of logistics; C8 - is able to carry out calculations of costs in the organization of transportation to determine the most optimal routes; C9 - is able to carry out calculations for determining the capacity of a warehouse, justify their choice for given conditions and storage volumes; C10 - is able to take part in the calculation and design of transportation systems, freight transportation.
12	Educational Program Learning Outcomes:	LO1: Establishes, solves and analyzes the results of solving complex problems in the field of transport infrastructure, warehousing logistics, cargo transportation both domestically and internationally in the field of transportation infrastructure, warehousing logistics, cargo transportation both domestically and internationally. LO2: Develops a body of knowledge for designing intelligent systems, applies modern intelligent transportation systems to solve applied problems in transportation and logistics. LO3: Proves application of mathematical terms in problem solving LO4: Uses information and communication technologies in professional activity to solve various applied problems in the field of transportation, warehousing using methods of mathematical and statistical analysis and modeling. LO5: Develops managerial decisions in the field of transportation services and logistics functions on the basis of broad fundamental and applied knowledge. LO6: Conducts technical and economic analysis of transportation and logistics facilities and processes, evaluates the results of the analysis and reasonably makes optimal decisions. LO7: Makes decisions and manages business

		processes based on personal leadership skills, entrepreneurial skills, financial literacy, knowledge of sustainability principles and anti-corruption policy provisions. LO8: Applies automatic design programs to design transport facilities and means, tools and methods of project management to develop logistics processes, warehouses, material flow control at transport infrastructure facilities. LO9: Conducts controlling of logistics processes, analyzes and evaluates logistics risks and makes appropriate decisions on risk prevention and mitigation. LO10: Applies knowledge of technical conditions and rules of rational operation of transportation and transport-technological machines and equipment. LO11: Decides on issues to ensure the safety of personnel, transportation process, operation of vehicles and cargo storage services. LO12: Makes decisions in professional activity using normative and legal documentation, theoretical and applied bases. LO13: Develops effective cargo delivery schemes, analyzes, plans and controls technological processes of transport and logistics facilities, draws up the relevant transport documentation. LO14: Solves problems in logistics on the basis of building mathematical models and applying mathematical methods. LO15: Makes decisions in material resources management at production enterprises using logistics approach and information technologies.
13	Form of studying	full-time, online
14	Term of study	4
15	Loan volume	240
16	Languages of instruction	Kazakh, Russian, English
17	Academic degree awarded degree	Bachelor's Degree in Services
18	Developer(s) and authors:	Mukhanova G.S., Bekzhanova S.E., Tymbaeva J.M., Bolatkyzy S., Tulebaev M.

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

№	Name of discipline	Brief description of the discipline	Number of credits	Formative learning outcomes (codes)														
				LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11	LO12	LO13	LO14	LO15
Cycle of general education disciplines Compulsory component																		
1	Foreign language	English is a discipline of the general education cycle. After determining the level (according to the results of diagnostic testing or IELTS results), students are divided into groups and disciplines. The name of the discipline corresponds to the level of English proficiency.	10						v			v						
2	Kazakh (Russian) language	When moving from level to level, prerequisites and postrequisites of disciplines are observed.	10						v			v						
3	Physical Education	The purpose of the discipline is the practical use of the skills of performing the basic elements of athletics techniques, sports games, gymnastics and a set of standards for general physical training, including professionally applied physical training or one of the sports, methods of conducting independent physical exercises.	8						v			v						
4	Information and Communication Technologies	The socio-political, sociocultural spheres of communication and functional styles of the modern	5						v			v						

	(MOOC)	Kazakh (Russian) language are considered. The course covers the specifics of the scientific style in order to develop and activate the professional communication skills and abilities of students, allows students to practically master the basics of the scientific style and develops the ability to produce a structural and semantic analysis of the text.																
5	History of Kazakhstan	Required component. The task of studying the discipline is to acquire theoretical knowledge about information processes, new information technologies, local and global computer networks, methods of information protection; obtaining skills in the use of text editors and spreadsheet processors; creation of databases and various categories of application programs	5						v			v						
6	Philosophy (MOOC)	Philosophy forms and develops critical and creative thinking, worldview and culture, provides knowledge about the most general and fundamental problems of being and endows them with a methodology for solving various theoretical practical issues. Philosophy expands the horizon of vision of the modern world, forms	5						v			v						

		citizenship and patriotism, contributes to the education of self-esteem, awareness of the value of human existence. It teaches to think and act correctly, develops the skills of practical and cognitive activity, helps to seek and find ways and means of life in harmony with oneself, society, and the world around.																
7	Module of Social and Political Knowledge (Sociology, Political Science)	Studying the course contributes to the formation of students' theoretical knowledge about society as an integral system, provides the political aspect of training a highly qualified specialist based on modern world and domestic political thought. The discipline is designed to improve the quality of both general humanitarian and professional training of students. Knowledge in the field of sociology and political science is necessary for understanding political processes, for forming a political culture, developing a personal position and a clearer understanding of the measure of one's responsibility.	3						v			v						
8	Module of socio-political knowledge (cultural studies and psychology)	The module of socio-political knowledge (culturology, psychology) is designed to acquaint students with the cultural achievements of	5						v			v						

		mankind, for their understanding and assimilation of the main forms and universal patterns of the formation and development of culture. During the course of cultural studies, general problems of the theory of culture, leading cultural concepts, universal patterns and mechanisms for the formation and development of culture, the main historical stages of the formation and development of Kazakhstani culture are considered.																
Cycle of general education disciplines Elective component																		
9	Fundamentals of anti-corruption culture and law	The course introduces students to the improvement of socio-economic relations of Kazakhstan society, psychological features of corrupt behavior. Special attention is paid to the formation of an anti-corruption culture, legal responsibility for acts of corruption in various spheres. The purpose of studying the discipline «Fundamentals of anti-corruption culture and law» is to increase public and individual legal awareness and legal culture of students, as well as the formation of a knowledge system and a civic position on combating corruption as an antisocial phenomenon.	5									v						

		Expected results: to realize the values of moral consciousness and follow moral norms in everyday practice; to work on improving the level of moral and legal culture; to use spiritual and moral mechanisms to prevent corruption.																
10	Fundamentals of research methods	The aim is to provide students with basic research skills. As a result of studying the discipline students will: know the basic concepts and methods of scientific research; be able to independently carry out research work, analyse and summarise scientific information. Content: The essence and role of scientific research. The classification of scientific research. The methodology of scientific research. The stages of scientific research. Theme of scientific research. Rationale for the relevance of the chosen topic. Aims and objectives of the research work. Definition of the object and subject of research. Selection of the methods (methodology) of research. Description of the research process. Discussion of the research results. Formulation of conclusions and assessment of the results. Standards of scientific ethics in the preparation of publications.	5						v									

11	Fundamentals of economics and entrepreneurship	Discipline studies the foundations of economics and entrepreneurial activity from the point of view of science and law; features, problematic aspects and development prospects; the theory and practice of entrepreneurship as a system of economic and organizational relations of business structures; The readiness of entrepreneurs for innovative susceptibility. The discipline reveals the content of entrepreneurial activity, the stages of career, qualities, competencies and responsibility of the entrepreneur, theoretical and practical business planning and economic examination of business ideas, as well as the analysis of the risks of innovative development, the introduction of new technologies and technological solutions.	5				v					v						
12	Ecology and life safety	The discipline studies theoretical and practical skills to create safe, harmless and environmentally friendly living conditions. The impact of natural and man-made hazards on the human body and their monitoring; culture of life safety; industrial sanitation; the impact of harmful substances and sources of pollution on the human body and their maximum permissible concentrations in the air of the working area; natural	5					v										

		and man-made emergencies.																
13	Basics of Financial Literacy	Purpose: formation of financial literacy of students on the basis of building a direct link between the acquired knowledge and their practical application. Contents: using in practice all kinds of tools in the field of financial management, saving and increasing savings, competent budget planning, obtaining practical skills in calculating, paying taxes and correctly filling out tax reports, analyzing financial information, orienting in financial products to choose adequate investment strategies.	5							v								
Cycle of basic disciplines University component																		
14	Introduction to specialty	The aim of the discipline is to inform students about the nature of their future work, the basic concepts of the functional areas of logistics. After completing the course the student should know the tasks and functions of the functional areas of logistics ; - The concepts of material and related information and financial flows; types of material flows. Content of the discipline: The concept, goals and objectives of logistics. The evolution of logistics development. The concept of material flow; types of material flows; logistic stages	5	v		v												

		of material flow movement. Logistics systems and supply chains. Functional areas of logistics. Purchasing logistics. Production logistics. Distribution logistics. Transport logistics. Inventory logistics. Warehousing logistics.																
15	Transport modes interactions	The purpose of the discipline is to study and apply the principles of coherence and consistency of operations (technologies) with the participation of various modes of transport in the general transportation process. Discipline objectives: study of the technical and economic features of modes of transport; technologies of work of modes of transport; technical and legal basis for the interaction of transport modes. Discipline content: technical and economic characteristics of transport modes; coordination (agreement) of transportation volumes, technologies, timetables of movement of different types of transport in their interaction; types of transportation with the interaction of various modes of transport. To design transportation with the participation of different modes of transport, the features of the transportation process in the	4	v	v	v	v											

		interaction of different modes of transport; calculation of the cost of transportation.																
16	Global logistics systems	Content of discipline: Driving forces of globalization. Globalization and its role in the country's economy. International transport systems, networks and corridors. Analysis of international transportation. Global logistics providers.	4		v			v		v								
17	Cargo handling	The purpose of the discipline is to teach students to develop rational conditions for the transportation and storage of goods for their high-quality delivery. Objectives of the discipline: studying the technical characteristics of cargo, the transport state of cargo, the interaction of cargo with the environment and among themselves; development of optimal conditions for transportation and storage of goods. Course content: transport characteristics and properties of goods; storage modes, methods of storing cargo, peculiarities of packaging and containers, characteristics of cargo hazard, as well as specific properties of cargo. requirements for technical means that perform transportation, cargo operations and storage of goods; rational conditions for the transportation	4		v	v				v				v			v	

		and storage of goods.																
18	Freight transport systems	The purpose of the discipline is to study the principles of operation of transport and handling and storage facilities. Discipline objectives: studying the structure of freight transport systems; analysis of logistics processes in freight transport systems. Upon completion of the course, the student should demonstrate the ability to analyze, synthesize, and design freight transportation systems, and calculate costs. Course content: classification of freight transport systems; structure of freight transport systems; logistics processes and costs in freight transport systems; technical and organizational solutions in freight transport systems.	5					v		v				v			v	
19	Simulation of logistics systems	The aim of the course is to equip students with the skills to develop simulation models and apply them to management decision-making. After completing the course, the student should be able to demonstrate the ability to set and On completion of the course the student will be able to set up and run simulation modeling of engineering logistics systems using AnyLogic software. software package. be able to The	5	v							v							

		content of the discipline: principles and concept of simulation. Building a conceptual model. Process-oriented discrete simulation models. The basics of a practical approach to creating simulation models of logistics systems. Modeling and reengineering of logistics processes in supply chains.																
20	Contract logistics	Content of the discipline: Development of outsourcing of logistics business processes. Formation and development of logistics providers. Models of a logistics operator and a logistics integrator. Combining aspects of logistics and financial audit, contractual model of interaction between the customer and the outsourcer, architecture of business processes of the customer's supply chain	5		v	v	v											
21	Logistics: information technology and systems	The aim of the discipline is to prepare students to solve professional tasks related to the use of information systems and technologies to optimise logistics activities. As a result of the discipline the student should know modern information systems and technologies in the functional areas of logistics and master the skills of their application to solve professional problems. Course content:	5	v										v				

		Introduction to information systems and technologies in logistics. Information flows in logistics systems. Logistics information systems: purpose, structure, group classification. Subsystems of information systems: functional and supporting. Elements of the supporting subsystem: hardware, information and mathematical support. Information technology in the field of procurement and distribution. Basic information technology for enterprise management. Information technology in the warehouse sector. RFID and barcode technologies. Information technology in the field of transport. Vehicle tracking and monitoring systems. Geoinformation systems. Modern technologies of enterprise internal document management. Internet / Intranet Technologies. E-commerce technology.																
22	Mathematics	The purpose of mastering the discipline is to form the theoretical and practical foundations of mathematics and its applications. On the basis of studying the mathematics section, to give students the development of thinking and the achievement of mathematical	5															v

		culture, which is necessary for application in future professional activities. The course is based on the study of mathematical analysis in a volume that allows you to study elementary functions and solve the simplest geometric, physical and other applied problems. The main focus is on differential and integral calculus. The course sections include the differential calculus of functions of one variable, the derivative and differentials, the study of the behavior of functions, complex numbers, and polynomials. Indefinite integrals, their properties and methods of calculation. Certain integrals and their applications. Improper integrals.																
23	Transport management and marketing	Purpose - to form students' competencies to ensure the effective functioning of transportation companies. Content: The economic nature of transportation services. Features of the transportation services market. Functions of management in transportation companies. Forms of organization of transport companies. Motivation in transportation companies. Marketing complex in transportation companies.	5				v		v	v		v						

		Competitiveness of transportation services. Internal and external environment of transportation companies. The student should know the specifics of the transport industry; be able to apply modern approaches in the management of transport companies.																
24	Theory of Probability and Mathematical Statistics	The purpose of studying the discipline is to form students' scientific ideas about the essence and properties of probabilistic processes, methods of probability theory and mathematical statistics. Upon completion of this course the student should know the basic concepts of combinatorics, basics of probability theory and mathematical statistics; be able to apply standard methods and models to solve probabilistic and statistical problems. The discipline studies random variables, distribution functions and statistical methods of their search and evaluation. The subject of probability theory, probability definitions, elements of combinatorics, random variables and the laws of their distribution are considered. The basics of mathematical statistics are studied - samples, types of samples, point and interval	5																v

		estimates.																
25	Transport infrastructure	The aim of the course is to provide students with theoretical and practical knowledge of the structure and indicators of transport infrastructure and n . After completing the course the student should After completing the course the student should demonstrate the ability to analyse transport infrastructure by modes of transport, to calculate their indicators, to assess costs and performance of transport organisation. Content of the discipline: The discipline will be studied. General information about roads and city streets. Classification of roads and city streets. Elements of the road. Transport performance indicators of highways. Crossing roads and railways. Track facilities of railways. Waterways of communication. Port and terminals. Air corridors. Airports: classification, structure, special territories. Technical equipment of airfields. Pipeline transport, its varieties and classification, basic technical and economic characteristics. Cableways. Transport infrastructure of the city. City ways of communication. Features of transport management.	5		v					v						v	v	

		Transport management structure. Functions of departments and transport management services.																
26	Transport logistics	The purpose of the discipline is to provide students with theoretical and practical knowledge of the types of transport and types of vehicles, the choice of carrier and transportation costs. After completing the course the student should know: - modes of transport; - modes of transport; - carrier selection methods; be able to: - use the knowledge gained in the discipline to select a carrier and determine the optimum mode of transport and transport route. Content of the discipline: The essence and objectives of transport logistics. Formation and development in transport logistics. Transport logistics support. Logistic intermediaries. Shipping Methods. Legal aspects of transport support. Types of transport, characteristics and technical and economic indicators. Classification of goods and vehicles. The choice of type of vehicle. Transport tariffs and rules for their application. Transport costs. In-production transport logistics.	6	v	v	v	v	v										v	
27	Data management in logistics	The aim of the course is for students to develop practical	5	v							v			v				

		skills in using the professional packages MS Excel, MS Access, Mathcad mathematical processor for data management in logistics. After completing the course the student should demonstrate the ability to process different types of data, apply methods of processing and analysis of information flows in Apply information management techniques to logistics systems; use technology to manage information flows. Content: Data, data sets, data attributes. Different technologies of data processing. Information resources logistics. Data management with the help of MS Excel logic MS Excel logic function. Data processing in the MathCad mathematical processor environment. Managing structural data. Features of working in the database management system environment. Creating a database for a transport company in MS Access.																
28	Transportation economics	The purpose of this course is to form students' understanding of economic principles of functioning and skills of application of methods and tools to improve the efficiency of transportation companies in the market economy. Upon	5				v											

		completion of the course the student will know: - the essence of the mechanism of functioning of enterprises; - the classification of enterprise resources, indicators and methods of their effective use; - the order of formation of cost, income, profit, profitability; pricing; taxation of enterprises; calculations of economic efficiency of investment projects; - classification, composition and methods of assessment of production and non-production costs. Will be able to: - conduct technical and economic analysis of the performed works and their efficiency; - determine reserves of reduction of the cycle of the performed works; - evaluate the investment attractiveness of projects; Will be able to: -develop a set of measures to improve the efficiency of the transport company -evaluate the profitability of the company; - execute the economic activities of the transport company. Course content: Production process and the basic principles of its organization. Organizational structure of transport company management. Production resources of the enterprise and indicators of their use. Working															

		capital of the enterprise. Labor productivity and efficiency of human resources. The cost of products, services or works. Calculation of the cost of freight and passenger transportation. Formation of tariffs for cargo and passenger transportation. Revenues and profits of cargo and passenger transportation. The main indicators characterizing the financial condition of the enterprise																
29	Economic-mathematical models and methods in logistics	The aim of the discipline is to equip students with the theoretical and practical skills to build mathematical models of various tasks in logistics and apply methods to solve problems. After completing the course, the student should acquire the following competencies: - know the stages of economic and mathematical modelling; - methods of solving various tasks; know how to - build mathematical models; - be able to apply methods of problem solving; - be able to analyse the results of problem solution. Content of discipline: Meaningful formulation and economic-mathematical model of problems. Stages of economic and mathematical modelling. Methods and models of linear programming. Transport	5	v							v							

		problem of linear programming. Application of the problem of linear programming in production logistics. Linear integer and nonlinear models and methods for their solution. Tasks of scheduling theory and methods for their solution. Graph theory. Stochastic methods and models																
30	Training practice	The purpose of training practice is to deepen, supplement and consolidate theoretical knowledge on the main disciplines of the course, obtained in the course of study. Training practice involves introducing the student to the professional environment, obtaining primary professional skills to collect information on the state of transport networks and infrastructure, transport routes.	3	v		v												
Cycle of basic disciplines Elective component																		
31	Data Analysis in Excel	The purpose of this course is to master the basic methods of quantitative analysis of numerical and non-numerical information in dogistic processes and supply chains. The main task of studying the discipline is to familiarize yourself with the methods of processing statistical information, the main methods of analyzing economic data for	5	v							v			v				v

		decision making and forecasting. As a result of studying the discipline, the student must: master the basic methods of quantitative analysis of numerical and non-numerical economic information in the Excell environment; know the basic approaches to forecasting economic indicators; Be able to apply methods using application packages. Content of the discipline: basic methods of quantitative analysis of numerical and non-numerical economic information in Excel environment; forecasting methods; The application of forecasting methods of economic indicators in Excel environment; Management of structured data. Using MS Excel as a database; Add-in Analysis Package. Simulation modelling in MS Excel using the Monte Carlo method.																
32	Business games in logistics	The purpose of the study of the discipline is the acquisition by students of decision-making skills in the event of a variety of situations in logistics systems and supply chains. After completing the course, the student will be able to apply the logistic approach to solve various practical problems in professional activities; will	5	v					v	v	v	v		v				

		acquire decision-making skills when considering various problem situations in logistics systems, production, inventory management, warehousing. The content of the discipline includes: the role of business games in logistics; structure and rules of business games; conducting business games that consider various practical situations in logistics, transportation of goods, the functioning of logistics centers, in the warehouse, in the distribution of finished products; analysis of the results of business games.																
33	Imitating games in logistics	The purpose of the discipline is to acquire the skills of problem solving in logistics, organization of transportation, management of logistics processes in transport and production based on the application of simulation games method. As a result of studying the discipline the student should know the methods of simulation modeling; be able to conduct experiments on the simulation model, analyze logistics processes, find problem areas and make decisions to eliminate problems; will acquire the skills of working with simulation models of various logistics systems and processes. Content	5	v					v		v							

		of the discipline: Simulation game as an interactive teaching method. Stages of conducting a simulation game: definition of the rules of the game, game process and analysis of the results. Simulation games of different economic and logistic systems: structure, basic economic systems: structure, objectives, functions. Simulation games "Inventory management", "Warehouse", "Supply", "Terminal", "Sea freight port". Conducting experimental research on models. Identifying problems and solutions. Analysis of experimental results. Forms of presentation of results. Processing of experimental results. Drawing conclusions from the simulation game.																
34	Intelligent transport systems	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. 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.	6													v		

		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																
35	Information systems and technologies in logistics	The aim of the course is to develop skills in developing logistics process management information subsystems. As a result of the course the student will know the principles of developing logistics information systems and be able to develop subsystems of logistics information systems. Course content. Principles of developing logistics information systems (LIS). Functionalities, business processes and users of LIS. LIS handbook. LIS database. Rapid response systems. Decision-making systems. Information flows in LIS: parameters, classification. Electronic data interchange (EDI) systems. EDI platforms, connections and standards. Electronic identification. Basic automated identification systems. Technologies for supply chain monitoring systems. Virtual logistics centres.	6	v										v				
36	Commercial logistics	The aim of the discipline is to provide students with systematic knowledge and understanding of the conceptual foundations of logistics as an instrument of	5		v	v	v		v									

		market economy, acquisition of skills and abilities to The objective of the course is to provide students with a systematic knowledge and understanding of the conceptual foundations of logistics as a market economy tool. After completing the course, the student should be able to set goals and formulate tasks related to the implementation of be able to use the methods of commercial logistics for solving them; be able to develop logistical strategies for material flow distribution networks develop skills in adapting to typical theoretical and practical problems of commercial logistics. Content of the discipline: Introduction to commercial logistics. Logistics flows and systems in commercial logistics. Classification of logistics flows. Types of logistics systems. Strategic planning and system management in commercial logistics. The relationship between logistics systems of various types. Wholesale and retail turnover in logistics systems. Forms of movement of material resources and goods. Logistics channels. Characteristics and content of																

		channel levels of various types. Logistics in the links of commodity movement. Control and management in commercial logistics. Planning and forecasting in commercial logistics.																
37	Mathematical statistics on transportation	The purpose of teaching the discipline is to equip students with the skills to carry out analyses of freight, traffic flows based on statistical methods. After completing the course the student should be able to demonstrate the ability to carry out statistical analysis of material and transport flows; data processing. Content of the discipline: Introduction Purpose, tasks and organization of statistics. Processing statistical data and establishing the law of distribution of random variables. Fundamentals of mathematical statistics. The sequence of the statistical study. Determination of the numerical characteristics of a statistical distribution. Construction of a statistical series and a histogram. Testing the hypothesis put forward. Basic principles of organization of statistics on transport. Statistical distribution. Expected value. Dispersion. The coefficient of variation. Classification of tasks. Linear	5	v						v	v							v

		general view. Transport. Linear distribution. Technical and economic tasks. Optimal use of stationary equipment. Optimum use of rolling stock. Optimal use of materials and fuels. Operational scheduling. Comprehensive optimization of current planning. Statistics of freight and passenger traffic.																
38	Methods of decision making in logistics	Methods and models of analysis and selection of effective solutions in uncertainty conditions for logistics systems are considered. Attention is paid to their specifics applied to the problems of inventory management in conditions of uncertainty. Analyzed anomalous phenomena of "blockages" of the choice of alternatives for optimization of such systems. Special modifications of traditional criteria of choice, allowing to eliminate these phenomena, so that more effectively adapt the best choice of alternative to the preferences of the person, the decision maker. The methods of analysis and optimization of such systems with taking into account the time value of money.	5		v				v									
39	Production and logistics modeling	The purpose of the discipline is to study the basic concepts and methods of modelling and simulating production and	5	v							v							

		logistics processes. Content: Implementation of simulation in production and logistics. Basic concepts of modeling and simulation. Conducting a simulation study (problem definition, system analysis / conceptual model, data collection and preparation, implementation / execution model, verification and validation, experiments and analysis, simulation results). Event-discrete modeling in manufacturing and logistics. Typical applications for modeling in manufacturing and logistics. Work in AnyLogic environment. Software tools for modeling in manufacturing and logistics. Independent work with software for discrete event simulation. Advanced simulation concepts (discrete velocity simulation, system dynamics simulation)																
40	Multimodal transport technology	The aim of the discipline is to master the multimodal technology of the transport process for the delivery of various types of cargo. After completing the course the student should know legislative and legal documents in multimodal transport; organization and technology of multimodal transport and rules	5	v						v								

		of loading and unloading and storage of cargo for specific operating conditions; be able to: carry out the selection of transport and loading and unloading means according to the criteria of safety and security of transported cargo; possess the skills to determine the need to develop skills in determining the requirements for the development of transport networks and means of transport. Content of the course: Features of multimodal transportation systems. Strategies for multimodal transportation systems. Transport expedition in multimodal transportation systems. Integral (universal) transport operator. Criteria for decision-making when choosing a mode of transport. Intermodal technologies of multimodal transportation system. Legislative documents in the field of multimodal transportation systems. World transport systems (transport corridors).																
41	Fundamentals of Artificial Intelligence	Purpose: to familiarize students with the basic concepts, methods and technologies in the field of artificial intelligence: machine learning, computer vision, natural language processing, etc. Contents: general definition of	5		v		v											

		artificial intelligence, intelligent agents, information retrieval and state space exploration, logical agents, architecture of artificial intelligence systems, expert systems, observational learning, statistical learning methods, probabilistic processing of linguistic information, semantic models, natural language processing systems.																
42	Basics of manufacturing processes	The aim of the discipline is to acquire theoretical knowledge and practical skills in the organisation of enterprise production processes. As a result of the discipline students should master the theoretical knowledge of the basic concepts and organisation of production processes; be able to analyse the theoretical foundations of production processes; have an idea of the types of basic technological processes. Contents: Standard Manufacturing Processes. Integration of technological processes into the production process. Industrial production technology. Organizational aspects of production planning and quality management.	5		v									v			v	
43	Transport network and its role in the economy	The purpose of the discipline is the acquisition of knowledge and skills for building transport networks. The discipline will be	5		v		v											

		studied. Transport network concept. The role of the transport network in the development of a region, country. Types of transport networks. Modeling of transport networks. Graph theory for modeling transport networks. Transport network indicators. Methods for increasing the reliability of the transport network. Prospects for the development of transport networks.																
44	Legal regulation of intellectual property	Purpose: the goal is to form a holistic understanding of the system of legal regulation of intellectual property, including basic principles, mechanisms for protecting intellectual property rights and features of their implementation. Content: The discipline covers the basics of IP law, including copyright, patents, trademarks, and industrial designs. Students learn how to protect and manage intellectual property rights, and consider legal disputes and methods for resolving them.	5							v					v			
45	Transport systems	The discipline considers: an introduction to the transport system. Definitions and concepts of the transport system. Types and composition of transport systems. Issues of transport innovations aimed at solving public and environmental	5	v	v		v			v								

		problems, increasing productivity and reducing production and time costs in the transport system. Automation systems to increase efficiency and reduce transportation costs. Modernization of “high intelligence” in public transport for the systematic management of human flows and timely satisfaction of the need for a vehicle “here and now”.																
46	Logistics technologies of industrial transport	The purpose of the discipline is for students to acquire basic theoretical knowledge and practical skills in the field of organizing the work of industrial transport. Content: Industrial transport: general provisions, the main components of industrial transport, special types of industrial transport. Logistics technologies of industrial enterprises. Principles of interaction between mainline and industrial transport. Unified technological process of industrial transport operation. Regulatory regulation of services for the use of access roads. Classification of access roads. The contract for the services of access roads. A contract for the services of supplying and cleaning wagons to the access roads.	5		v								v					

47	Logistics process management	Learning objectives: To acquire, deepen and consolidate knowledge about management strategies, management and organizational concepts in the field of logistics, description / modeling of logistics processes, logic and management technologies, information and management systems of logistics. Discipline content: Subject, objectives, goals of management of the logistics process. The basics of managing automated systems of material flows and managing complex logistics processes. Logistic process control / process control. Conceptual design of management, development of a logistics process	5		v				v			v		v				
48	Fundamentals of sustainable development and ESG projects in Kazakhstan	Purpose: the goal is for students to master the theoretical foundations and practical skills in the field of sustainable development and ESG, as well as to develop an understanding of the role of these aspects in the modern economic and social development of Kazakhstan. Contents: introduces the principles of sustainable development and the implementation of ESG practices in Kazakhstan, includes the study of national and international standards, analysis	5							v								

		of successful ESG projects and strategies for their implementation in enterprises and organizations.																
Cycle of specialized disciplines University component																		
49	Production logistics	The aim of the discipline is to equip students with the skills to manage the flow of materials in production. As a result of mastering the discipline the student should: Knowledge: - decision-making methods in the management of operational (production) activities of organisations; - classification of resources of the enterprise, indicators and methods of their effective use; be able to: - conduct technical and economic analysis of performed works and their efficiency; - determine the reserves to reduce the cycle of work performed; - to plan and regulate operational logistic activities in supply chains. Content of the discipline: • concepts and essence of production logistics; • principles of organization and structure of the production process, within which the material flow is organized; • types of material flows movement; • systems and methods of operational planning and material flow management, including those used in the	5						v	v				v				

		concepts of MRP I, MRP II, ERP, JIT and the KANBAN system.																
50	Warehouse logistics	The aim of the course is to provide students with theoretical and practical knowledge of warehouse organisation. After completing the course, the student should know: - classes of warehouses; - methods of storage; - warehouse management technologies; be able to: - carry out warehouse planning; - the costs of using the warehouse. Content of the discipline: The role and place of a warehouse in the logistics system, their functions and tasks in logistics. Conditions for the effective functioning of the warehouse in the logistics system. Characteristics of the main storage areas. Warehouse planning. Packaging in warehousing logistics. Product quality control. Methods of inventory accounting and control in the warehouse. Warehouse design. Development of an optimal warehousing system. Automated warehouse management systems. Methodological development of the structure of the warehouse system of the enterprise based on the assessment of the current state and strategic planning of	4	v	v			v		v								

		the enterprise. The investment program of the project of reorganization of the structure of the warehouse system of the enterprise. Warehouse system of a wholesale and retail trade enterprise operating in the field of Internet business.																
51	Inventory management in logistics systems	The purpose of teaching the discipline is to provide students with an understanding of the stock formation mechanism, the principles and methods of inventory management in logistics systems, to develop the skills of determining the optimal level of stock and the ability to manage the process of stock formation. As a result of mastering the discipline the student should: Know: - classification of inventory; - the objectives of inventory formation; - supply calculation methods; - the logistical approach to inventory management. To be able to: - Calculate the amount of optimum order size; - estimate the costs of stock formation and storage; Have the skills to: - to independently learn new knowledge in the professional sphere; - know how to: independently acquire new knowledge in the professional sphere; determine the size of the	4		v						v			v				

		necessary material stock. Content of the discipline: Inventory as an object of management in the logistics system. Management of different groups of stock positions. Inventory movement in the logistics system. Indicators of inventory status in the logistics system. Inventory management process in a logistics system. Costs associated with inventory in a logistics system. Evaluation and analysis of the accuracy of inventory requirement forecasting. Determination of the volume of inventory requirement. A modification of the classical formula for calculating optimum order size. Inventory management models in a logistics system. Inventory management under uncertainty.																
52	Supply chain management	The purpose of the discipline is to study the essence and content of supply chain management as a science, as well as the areas of application of its concepts in practice. As a result of mastering the discipline the student should: Knowledge: - Classification of supply chain; - Objective and process approaches to supply chain management; - Key drivers of supply chain performance. Acquire the skills to: - Using key supply chain design factors at a	6	v	v				v		v			v				

		conceptual and practical level; - Identify different ways to improve the supply chain; - Supply chain design; - Practice supply chain management and performance measurement; - Use of information technology. Content of the discipline: The course content: the concept of logistics system and supply chain management; the essence and current trends in the development of supply chains; integration in supply chain management; functional cycle of logistics; strategic planning and methods of designing supply chains; controlling key processes in supply chains; design of logistics systems and supply chains; inventory management in the supply chain; logistics audit of supply chains; information integration of processes in supply chain management.																
53	Production practice I	Industrial practice is an important stage of practical training of specialists in logistics and transportation organization. Trainees acquire professional practical skills of their future profession in transportation, logistics companies, or subdivisions of production or commercial companies. They master new technologies and information systems in logistics	2		v	v			v	v								

		and transportation organization at their workplaces																
54	Production practice II	Trainees are involved in solving logistics problems, transportation management, work on information systems in logistics and transportation organization, warehousing, research center for the study of transport flows.	3						v	v				v				
Cycle of specialized disciplines Elective component																		
55	Outsourcing in logistics	The content of the discipline: The problem of insourcing-outsourcing logistics as a kind of problem MOV (make or buy) – "To make or buy". Formation of the logistics outsourcing market (providers, consumers, intermediaries, developers). Structure and evolution of outsourced functions. Characteristics of the main reasons for the decision-making of the MOU. Economic and strategic factors. Quality indicators of logistics service. Characteristics and dynamics of the world and Kazakhstan logistics services markets. The structure of the global logistics outsourcing market. Logistics principles in the organization of logistics outsourcing. Criteria and approaches to choosing a logistics provider.	5	v	v			v	v									
56	Purchasing logistics	The content of the discipline:	5		v	v				v		v						

		The essence, goals and objectives of procurement logistics. Legal basis of procurement. Supply service at the enterprise. Study of the commodity market. Choosing a supplier. Procurement implementation, procurement budget. Organization and planning of the material and technical support of the enterprise.																
57	Customs logistics	The objective is to acquire knowledge about the procedure and principles of movement of goods and means of transport across the customs border. Content: Basic concepts in the theory and practice of customs logistics. Customs legislation and organization of customs affairs of the Republic of Kazakhstan. Types of customs procedures. The order of movement of goods across the customs border. Customs clearance of goods and vehicles. Customs carrier. Customs payments and taxes. Determination of customs value. Customs control. Declaration of goods. Customs documents.	5		v	v												
58	Innovative directions in the organization of freight transportation	The concept and importance of innovative directions in the organization of freight transportation; ways to improve the organization of the	6	v										v				

		transportation process; ways to reduce the cost of operating rolling stock; innovative technologies in the organization of freight transportation; an integrated approach to the organization of road transport at a motor transport enterprise (ATP) in the context of the commercialization of the sale of motor transport services.																
59	Teamwork and business communications	The aim of the course is to develop students' teamwork and business communication skills within the rules of professional ethics and business etiquette. After completing the course the student should know: - the rules of business meetings, meetings, discussions, negotiations, conversations and internet communications within the framework of professional ethics and business etiquette; - methods of establishing cooperation and techniques of forming team cohesion and dealing with conflict situations. be able to: - interact with management and employees. Content of the discipline: Personal and interpersonal effectiveness in the process of team formation. Culture of business communications. Team building and team building. Business ethics and its role in the process	5									v						

		of forming team goals, values, group cohesion and economic effect. Personality and its role in the process of team building. Interpersonal communications in the process of team building. Goals, objectives and technologies of team formation. Command interaction. System and technology of business communications. Features of business communication as a process. Efficiency of business communication. Conducting business meetings: conversations and negotiations. Written form of business communication. Features of public communication. Modern forms of Internet communication.															
60	Containerization of freight transport	Content of the discipline: Transport and transit potential of the Republic of Kazakhstan. The role of container transportation in the development of transit potential. Technical support of the container transport system. Technical equipment and technology of operation of container points on railway transport. Plan for the formation of wagons with containers. Organization of container trains. Theoretical foundations of the formation of the international rail freight transportation	4							v							v	

		market.																
61	Controlling logistics systems	The purpose of the discipline is to develop students' knowledge and skills in implementing controlling functions in logistics systems. After completing the course, the student should know: - essence, functions and types of controlling; - basics of operational and strategic management logistics systems; - key performance indicators of logistics systems; Be able to: - use the methodology for developing key indicators of the system; possess the skills of controlling logistics systems. The content of the discipline: Objective prerequisites and factors for the use of controlling in modern logistics systems. Controlling and its place in the management of the logistics system. Concepts of controlling, goals, tasks, functions and models of controlling logistics systems. Strategic and operational controlling in the system management of logistics activities. Tools for strategic controlling of logistics systems. Accounting and cost control in the system of controlling logistics activities and its methods. Organization of controlling the logistics system. Information technology in	5												v			

		controlling logistics systems.																
62	Logistics of freight forwarding services	The purpose of teaching the discipline is the assimilation by students of theoretical foundations and practical skills in the field of planning, organization and effective management of freight forwarding. Description of discipline: - scientific and methodological foundations of the logistics of freight forwarding services; - Logistic concept of a transport expedition; - the specifics of the objects of the logistics of freight forwarding services - freight flows and their classification; - a functional logistics contour of the logistics of transport and forwarding services; - The principles and methods of logistics in organizing the search for orders and the implementation of services; - Features of product transportation in the logistics of freight forwarding services, terminal and modal transportation; - the ability to evaluate the effectiveness of the application of the principles and methods of logistics in freight forwarding activities.	5		v	v	v												
63	New research directions in logistics	The purpose of the discipline is to develop students' skills in conducting research work and	5		v				v										

		identifying innovative solutions in the professional field. After completing the course, the student should know the basic concepts of scientific research, ideas about the methods of searching for new knowledge and scientific information in the professional field; be able to search and review scientific literature in the professional field; find scientific achievements and innovative technologies in the field of logistics, applying scientific methods. The content of the discipline: The main objects of research in logistics. Basic paradigms and concepts of logistics. Logistics as a science and practice of managing the movement of material and related information flows in space and time. General scientific methods and approaches used in logistics. System analysis. Operations research. Methodological principles of logistics: consistency; global optimization or emergence; focus on total costs; logistics coordination and integration; hierarchies.																
64	Organization transportations and traffic control	The aim of the discipline is to study the theoretical foundations and methods of organising the delivery of goods and passengers	5		v	v								v			v	

		by transport, the organisation of transport traffic and to acquire practical skills of planning and managing the transport process. After completing the course the student should know the basic principles of management of the operational work of different types of transport, taking into account the application of information and automated control systems; know the operational indicators of the use of transport units; be able to determine the capacity and carrying capacity of transport networks and facilities. Content of the discipline: Tasks of transportation organisation and traffic management in transport. Technology of railway stations; organization of work of railway and transport hubs; management of car traffic on the railway network. Indicators of the use of rolling stock. The role of industrial transport in a single transport process. Organization of work of transport at industrial enterprises. Methods for studying the characteristics of road traffic. Study of traffic parameters. Methods for assessing the effectiveness of the organization of traffic. Organization of road transport. Freight and passenger traffic,																

		methods of their study. Quantitative and qualitative indicators of transport operation.																
65	Translation of goods	Purpose: to study the theoretical basis of the Cargo Transport Regulations (CTR) for all types of cargo vehicles. Upon completion of the course the learner should know: BCPs on railway and road transport; be able to choose the optimal route and type of vehicle for cargo delivery; organise the correct placement and securing of cargo according to BCPs. Content: BCP on railway, road, air and sea transport in the Republican and international communications; Wagon. Technical characteristics. Pricing and calculation of rates. Incaterms 2020.	5	v			v		v				v					
66	Organization of transportation and economics of transport management	The role of transport and organization of transportation in a market economy. The economics of rolling stock, production resources and the efficiency of their use. Economic indicators of the transport company and their analysis. Analysis of transportation costs.	5				v											
67	Safety of transport and logistics processes	The purpose of the discipline is for students to acquire basic theoretical knowledge and practical skills in the field of security at transport and logistics facilities.	5											v		v		

		Content: Basic terms and definitions in the theory and practice of security. Legal and organizational bases for ensuring transport security. Safety indicators. Principles and conditions of trouble-free operation of the transport and logistics complex. Types and causes of failures of technical devices that ensure the safety of transport and logistics processes. Traffic safety management system. Risk management in the transport and logistics complex. Formation of a safety culture.																
68	The basics of FEA and regulations for international transportation	The aim of the discipline is to acquire skills in organising foreign trade operations and contracting techniques, managing the foreign trade activities of an enterprise and organising international transport. After completing the course the student will know the legislative and legal documents of foreign economic activity; forms and methods of entering the foreign market; know the accounting techniques to determine the economic efficiency and expediency of foreign economic activity; be able to apply the legal framework of foreign economic activity; apply the rules of INCOTERMS. The content of	5		v	v				v								

		the discipline includes: Transport in the field of foreign trade. Material and technical base of transport. Transport support in the implementation of foreign economic activity. The main types of documents on various modes of transport. Transport work in the system of the foreign economic complex. Stages of transport support of foreign economic relations. The process of organizing the delivery of goods; INCOTERMS rule.																
69	Fundamentals of research work	The aim of the course is to prepare students for research work. After completing the course the student should know the basic concepts of scientific research, ideas about the methods of scientific cognition, search for knowledge, search for scientific information; be able to conduct a search and review of scientific literature; possess the skills of searching and working with various information sources; presentation of research results. Content of the discipline: Theoretical and methodological foundations scientific research. The concept of organization of scientific research, planning and effectiveness. Typical stages of research work. Forms of organization and management of	5						v									

		science. Classification of scientific institutions. The system of organization of research work at the university, its main goals and objectives. Types and forms of research work. Independent work of a student in research. Ethical norms of scientific work. Preparation, organization and planning of scientific research. Research methods and their characteristics. Definition of stages and tasks in scientific work, generalization of research results. Formulation of scientific work.																
70	Fundamentals of the design of motor freight delivery systems	Features of the functioning of transport as a branch of material production. Transport process and its meters. Optimization of transport elements process. Technology of trucking systems of cargo delivery. Transport capabilities of transport. The basic principles of the technology of the transportation process of goods. The technological process of transportation of goods. Models for describing the functioning of cargo delivery systems by road. Advanced methods of organizing transportation, centralized transportation. Measurement of the effectiveness of motor freight delivery systems. Performance	5										v					

		indicators. Evaluation of the effectiveness of freight delivery systems.																
71	Enterprise Resource Planning (ERP systems)	Course content: Basic concepts: ERP-system, functional module, business planning and enterprise resource management, system life cycle, organizational plan, interaction of functional modules. Architecture and functionality of ERP systems. Methodology and stages of ERP systems implementation. SAP R / 3 system. Case studies of complex business processes with SAP R / 3 Enterprise	4	v										v				
72	Logistics systems design	The course "Design of Logistics Systems" reveals the content and specifics of the design of logistics systems. The course covers issues related to the specifics of logistics systems as an object of design, the process of designing a logistics system, and activities related to managing the design of a logistics system. The discipline will be studied. Methodology and basic principles of the design of logistics systems. System approach and system analysis in design. Modeling of objects and subjects of management in the logistics system. Quality criteria for the performance of logistics systems. Methods and algorithms for the design of	5				v						v					

		logistics systems at the macro and micro level. Automation of logistics systems design. Formation of the organizational structure of the logistics system. Optimization of design solutions. Evaluation of the effectiveness and efficiency of logistics systems.																
73	Risk management in logistics	The content of the discipline: Risk as an economic category, its essence. The concept of risk management and its role in a modern enterprise. Risk management functions. General principles of risk classification. The main risk groups in logistics. Identification and forecasting of risks. The concept of risk identification. The method of expert assessments. Risk management methods.	5												v			
74	Transportation in Supply Chain Logistics	Introduction to supply logistics. The role of transport in supply logistics. Vendor selection methods. Analysis and calculation of transport and logistics costs in the supply and identification of opportunities for their reduction while maintaining the reliability of the functioning of the logistics system and supply chains. Optimization of costs associated with logistics supply.	4			v	v		v						v				
75	The office of freight and commercial work	The purpose of the discipline is to master the technology of cargo	5					v		v	v				v			v	

		and commercial work at all stages of the transportation process for the delivery of various types of goods. After completing the course the student should know the technical means of freight and commercial work, advanced ways of organising transportation in transport logistics systems, the basics of transport law; know the principles of tariff construction; be able to organise freight and commercial work on the basis of advanced innovative technologies, information systems of management of loading and unloading work. Content of the course: Discipline includes a set of questions associated with the transportation process, mainly with its start and end operations - loading and unloading; with the organisation of progressive modes of transport - package, container and routing; with the use of cars and time and capacity of the containers, with the interaction with other transport modes, the development of and compliance with the rules of transportation of cargo conditions, ensuring their safety, traffic planning, mechanization of cargo handling and others.																

		The discipline will be studied. Fundamentals of management of cargo and commercial work. The concentration and means of cargo and commercial work. Technology implementation of industrial and commercial operations. Freight rates. The general principles of the organization of the access roads. Technology haulage of bulk transport. Freight on special conditions. Management of freight and commercial operations of the carriage of goods in mixed messages. The technology of industrial and commercial operations in international messages. Responsible for transport. Ways to improve cargo and commercial work on the railway and road transport.																
76	Project management in logistics	The purpose of the discipline is to study the tools and methods of project management in the field of logistics. After completing the course, the student should know the project management standards existing in world practice; tools and methods of project management; be able to develop a hierarchical work structure and build a Gantt chart; determine the critical path and risks of the project, develop a cause-and-effect diagram;	5										v					

		master the skills of working in the MS Project environment. The content of the discipline: Basic concepts and definitions of project management. Modern standards in the field of project management, their characteristics and application in the field of logistics; Project management tools and techniques. Development of the charter and content of the project. Hierarchical structure of work and Gantt chart. The critical path method. Quality and risk management of projects in logistics. Basic skills in MS Project.																
77	Emotional intelligence	The purpose of studying the discipline "Emotional Intelligence" is the formation of students' theoretical and practical knowledge, skills and abilities of emotional competence in the management of value chains, as well as the formation of emotionally competent behavior necessary for the professional activity of a high-level specialist based on the consideration of the emotional factor in the business processes of modern companies. After completing the course, the student should know: - basic theoretical concepts of emotional intelligence; - principles of managing one's own emotions	5									v						

		and those of the team and group; be able to: -Manage emotions in business interactions and apply innovative methods of team and unit management based on emotional intelligence; Content of the discipline: The concept and structure of "emotional intelligence". Modern methods of assessing emotional intelligence. Modern technologies of training and development of emotional intelligence of staff. Emotional competence of the manager. Emotional intelligence and organizational culture. The concept of group coefficient of emotional intelligence. Systemic approach to the introduction of emotional intelligence																
78	WMS (Warehouse management system)	The aim of the discipline is to acquire skills in the application of warehouse management information systems. As a result of studying the discipline the student should know the principles of organization of warehousing, technology in the warehouse; be able to organize the movement of material flow in the warehouse; acquire skills of working with warehouse management information system. Course content: The basics of logistics warehousing and its principles. Models and	6	v						v								

		methods of building a warehouse network of an enterprise. Methods of planning material flows. Functioning and management of the storage system. Automated Warehouse Management System (WMS). Modern trends of technical equipment of the warehouse. Methods for modeling business processes in warehousing logistics. Paperless and wireless technology in stock.																

5. Curriculum of the educational program

NJSC "KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY named after K.I. SATPAEV"

SATBAYEV UNIVERSITY

APPROVED
Chairman of the Management Board-
Rector of K.I.Satpayev named after K.Satpayev
M.M. Begentayev
2024 г.

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

Educational program 6B11301 - "Transport services"
Group of educational programs B095 - "Transport services"

Form of study: full-time **Duration of study: 4 years** **Academic degree: Bachelor in services**

Discipline code	Name of disciplines	Cycle	Total amount in credits	Total hours	classroom volume of lek/lab/p	SIS (including TSIS) in hours	Form of control	Allocation of face-to-face training based on courses and semesters							
								I course		II course		III course		IV course	
								1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester	8 semester
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED)															
M-1. Module of language training															
LNG 108	Foreign language	GED, RC	5	150	0/0/3	105	E	5							
LNG 108	Foreign language	GED, RC	5	150	0/0/3	105	E		5						
LNG 104	Kazakh (russian) language	GED, RC	5	150	0/0/3	105	E	5							
LNG 104	Kazakh (russian) language	GED, RC	5	150	0/0/3	105	E		5						
M-2. Module of physical training															
KFK 101-104	Physical Culture	GED, RC	8	240	0/0/8	120	Diffcredit	2	2	2	2				
M-3. Module of information technology															
CSE 677	Information and communication technologies	GED, RC	5	150	2/1/0	105	E				5				
LOG111	Data Analysis in Excel	BD, CCH	5	150	2/1/0	105	E								
LOG129	Multimodal transport technology				2/0/1								5		
CSE831	Fundamentals of Artificial Intelligence				1/0/2										
LOG507	Information systems and technologies in logistics	BD, CCH	6	180	2/1/1	135	E							6	
LOG522	Intelligent transport systems				2/1/1										
LOG509	WMS (Warehouse management system)	PD, CCH	6	150	2/1/1	105	E								6
LOG508	Innovative directions in the organization of freight transportation				2/1/1										
M-4. Socio-cultural development module															
HUM137	History of Kazakhstan	GED, RC	5	150	1/0/2	105	SE		5						
HUM132	Philosophy	GED, RC	5	150	1/0/2	105	E				5				
HUM120	Module of socio-political knowledge (sociology, political science)	GED, RC	3	90	1/0/1	60	E				3				
HUM134	Module of socio-political knowledge (cultural studies, psychology)		5	150	2/0/1	150	E			5					
M-5. Module on the basis of anti-corruption culture, ecology and life safety															
HUM136	Fundamentals of anti-corruption culture and law	GED, CCH	5	150	2/0/1	150	E			5					
MNG489	Fundamentals of economics and entrepreneurship														
LOG524	Fundamentals of scientific research methods														
CHE 636	Ecology and life safety														
MNG564	Basics of Financial Literacy														
CYCLE OF BASIC DISCIPLINES (BD)															
M-6. Module of physical and mathematical training															
MAT423	Mathematics	BD, UC	5	150	1/0/2	105	E	5							
MAT177	Theory of Probability and Mathematical Statistics	BD, UC	5	150	1/0/2	105	E		5						
LOG503	Economic-mathematical models and methods in logistics	BD, UC	5	150	1/1/1	105	E			5					
LOG124	Production and logistics modeling	BD, CCH	5	150	2/1/0	105	E								
MNG121	Logistics: information technology and systems										5				
LOG108	Mathematical statistics on transport														
M-7. Module of basic training															
LOG100	Introduction to specialty	BD, UC	5	150	2/0/1	105	E	5							
LOG523	Transport infrastructure	BD, UC	5	150	2/0/1	105	E			5					
LOG501	Global Logistics Systems	BD, UC	4	120	2/0/1	75	E						4		
LOG502	Transport modes interactions	BD, UC	4	120	2/0/1	75	E		4						
LOG143	Transport management and marketing	BD, UC	5	150	2/0/1	105	E	5							
MNG109	Economy of transport	BD, UC	5	150	2/0/1	105	E							5	
LOG122	Cargo handling	BD, UC	4	120	2/0/1	75	E		4						
LOG101	Freight transport systems	BD, UC	5	150	2/0/1	105	E			5					
LOG500	Transport logistics	BD, UC	6	180	2/0/2	135	E				6				
LOG127	Commercial logistics	BD, UC	5	150	2/0/1	105	E					5			
LOG112	Methods of decision making in logistics	BD, CCH	5	150	2/0/1	105	E			5					
MNG450	Contract logistics				2/0/1										
LOG120	Transport network and its role in the economy				2/1/0										
MNG562	Legal regulation of intellectual property				2/0/1										

MNG562	Legal regulation of intellectual property				2/0/1												
LOG114	Simulation of logistics systems	BD, CCH	5	150	2/1/0	105	E					5					
LOG121	Bases of manufacturing processes				2/0/1												
TRA453	Logistic process management				2/0/1												
MNG170	Business games in logistics	BD, CCH	5	150	1/0/2	105	E						5				
LOG105	Transport systems				2/0/1												
LOG140	Logistics technologies of industrial transport				2/0/1												
MNG171	Imitating games in logistics				1/0/2												
LOG119	Data management in logistics				2/1/0												
MNG563	Fundamentals of sustainable development and ESG projects in Kazakhstan				2/0/1												
AAP149	Educational practice	BD, UC	3	90					3								
	CYCLE OF PROFILE DISCIPLINES (PD)																
	M-8. Module of professional activity																
TRA173	The office of freight and commercial work	PD, UC	5	150	2/0/1	105	E					5					
MNG453	Warehouse logistics	PD, UC	4	120	2/0/1	75	E						4				
LOG506	Inventory management in logistics systems	PD, UC	4	120	2/0/1	75	E										4
LOG505	Supply Chain Management	PD, UC	6	180	2/0/2	135	E								6		
MNG137	Production logistics	PD, UC	5	150	2/0/1	105	E								5		
LOG510	Organization transportations and traffic control	PD, UC	5	150	2/1/0	105	E					5					
LOG132	Translation of goods	PD, UC	5	150	2/0/1	105	E					5					
LOG511	Containerization of freight transport	PD, UC	4	120	2/0/1	75	E						4				
LOG512	Transportation in supply chain logistics				2/0/1												
LOG513	Enterprise resource planning (ERP systems)				2/0/1												
LOG138	Safety of transport and logistics processes	PD, CCH	5	150	2/0/1	105	E					5					
LOG109	Organization of transportation and economics of transport management				2/0/1												
LOG141	Customs logistics	PD, CCH	5	150	2/0/1	105	E						5				
MNG454	Purchasing logistics																
LOG117	Risk management in logistics																
TRA187	The bases of FEA and regulations for international transportation	PD, CCH	5	150	2/0/1	105	E								5		
LOG136	Logistics of freight forwarding services				2/0/1												
MNG448	Outsourcing in logistics				1/0/2												
LOG520	Emotional Intelligence	PD, CCH	5	150	1/0/2	105	E										5
LOG519	Teamwork and business communications				1/0/2												
MNG141	Controlling of logistics systems				2/0/1												
LOG135	Project Management in Logistics	PD, CCH	5	150	2/1/0	105	E								5		
LOG118	Fundamentals of the design of motor freight delivery systems																
LOG134	Logistics systems design																
LOG517	Fundamentals of research work	PD, CCH	5	150	2/0/1	105	E										5
LOG518	New Research Directions in Logistics																
AAP102	Production practice I	PD, UC	2								2						
AAP183	Production practice II	PD, UC	3										3				
	M-9. Final certification module																
ECA109	Writing and defense of the thesis / project	FA	8														8
	M-10. Additional training module																
AAP500	Military training	ATT	0														
	Total based on UNIVERSITY:							27	33	32	28	30	30	32	28		
								60		60		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	51		5	56
BD	Cycle of basic disciplines		66	31	176
PD	Cycle of profile disciplines		43	36	
	Total for theoretical training:				*232*
FA	Final attestation	8			8
	TOTAL:	8	0	0	240

Decision of the Academic Council of Kaznu named after K.Satpayev. Protocol № 12 "22" 04 2024

Decision of the Educational and Methodological Council of Kaznu named after K.Satpayev. Protocol № 6 "19" 04 2024

Decision of the Academic Council of the School of transport engineering and logistics named after M. Tynyshpayev_____. Protocol № 4 от "19" 03 2024

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

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

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

Specialty Council representative from employers — S.M. Medetbekov