

**MINISTRY OF AGRICULTURE OF THE REPUBLIC OF KAZAKHSTAN**

**NAO " KAZAKH AGROTECHNICAL UNIVERSITY NAMED AFTER S. SEIFULLIN»**

Considered CLAIM  
at the meeting of the  
Academic Council of the University  
Protocol № 16  
from "27" may 2021 y.

Dean of the  
Technical Faculty  
\_\_\_\_\_ S.O. Nukeshev  
" \_\_\_\_\_ " \_\_\_\_\_ 2021y.

**ELECTIVE DISCIPLINE CATALOG**

**Direction of preparation: 6B113-Transport services**

**OP 6B095 - "Logistics in transport" and "Organization and safety of road traffic"**

**Nur-Sultan 2021y.**

**Catalog of elective disciplines: Nur - Sultan, 2021. - 26 p.**

This catalog contains a list and content of elective component disciplines, post- and prerequisites of elective disciplines, as well as the corresponding amount of credits offered by the university for mastering bachelor's educational programs in educational programs (EP) 6B095 - "Logistics in transport" and "Organization and safety of road traffic" is intended for students studying on the credit system.

## **EXPLANATORY NOTE**

Dear students! With the credit system of education, a mandatory element of the educational and methodological complex of the educational program (EP) is the catalog of elective disciplines (CED), which is a list of disciplines included in the optional component. In accordance with the State Educational Standard of the Republic of Kazakhstan, the volume of loans allocated for elective disciplines has been increased, and therefore the importance of QED for students to choose their educational program is increasing.

The catalog of elective disciplines is used by students in drawing up an individual curriculum (IEP), developed under the guidance of an adviser, taking into account the individual abilities of the student, his growth prospects, the needs of the labor market and production. The catalog offers disciplines that allow students to master within the framework of EP 6B095 - Logistics in transport" and "Organization and safety of road traffic".

The educational program 6B095 - Logistics in transport" and "Organization and safety of road traffic" provides for the preparation of a bachelor in the field of services capable of providing management and organization of the work of a transport company and its divisions, leadership and organization in transport logistics, organization of the structure and service of vehicle operation , organization of transport services and transport services.

**Direction of training:** 6B113 - Transport services

**OP "Logistics in transport" and "Organization and safety of road traffic"**

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| <b>1. Basic information about the discipline</b> |   |
| <b>Name of the discipline</b>                    | Fundamentals of Economics and Law   |
| <b>2. Number of credits</b>                      | 5 Political   |
| <b>3. Prerequisites:</b>                         | Science and Sociology   |
| <b>4. Post-requirements:</b>                     | Economics of enterprise and entrepreneurship  |
| <b>5. Competencies:</b>                          | <p>To know:</p> <ul style="list-style-type: none"><li>- the main categories of law;</li><li>- the main provisions of the current legislation of the Republic of Kazakhstan;</li><li>- basic scientific and theoretical concepts of economics;</li><li>- regularities of the development of economic processes;</li><li>- the main concepts created during the long evolution of economic thought;</li><li>- the principles of functioning of the market mechanism, self-regulation and state influence on the economy.</li></ul> <p>Be able to:</p> <ul style="list-style-type: none"><li>- to be guided by the current legislation;</li><li>- systematize knowledge about the essence and forms of manifestation of economic phenomena and processes;</li><li>- to apply in practice the methods of scientific knowledge of economic phenomena and laws;</li><li>- using the law to protect their rights and interests;</li><li>- work independently.</li></ul> <p>Have the skills:</p> <ul style="list-style-type: none"><li>- analyze legal norms;</li><li>- conducting discussions on legal issues;</li><li>- analysis and assessment of the state and trends of socio-economic development of the national and world economy;</li><li>- an interdisciplinary approach to solving economic problems;</li><li>- to acquire knowledge for professional development throughout life.</li></ul> |
| <b>6. Author of the course</b>                   | The staff of the Department of Economics  |
| <b>7. Basic literature</b>                       | <ol style="list-style-type: none"><li>1. S. D. Bakkulov Kutyk negizderi. Okulyk Almaty, 2009.</li><li>2. K. S. Akhmetova Kasipkerlik kutyk pani boyynsha darister zhinagi, 2013.</li><li>3. Maulenova S. S. Bekmoldin S. K. Kudaibergenov E. K. Ekonomikalyk theory. Almaty, 2003.</li><li>4. National economy: a textbook under the general ed. Sidorovich A.V., Abisheva A. A.-Almaty: Ekonomika,</li></ol>   |

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|  | 2009.<br>5. Aubakirov Ya . A. National economy: practical problems of development. - Almaty: Rarity, 2009.<br>6. Competitiveness of the national economy: evaluation criteria and ways to improve. Ed. Sabdena O.-Almaty, 2007. |
| <b>8. Content of the discipline:</b> Fundamentals of the theory of the state. Fundamentals of the theory of law. Fundamentals of constitutional law. Fundamentals of civil law. Fundamentals of family law. Fundamentals of labor law. Fundamentals of criminal law. The subject of economic theory and research methods. Fundamentals of social production. Types of economic systems. Supply and demand. The market and competition. Inflation and unemployment are manifestations of economic instability. State regulation and economic security of the national economy. Economic foundations of the functioning of the world economy |   |

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| <b>1. Basic information about the discipline</b> |   |
| <b>Name of the discipline</b>                    | Modeling of engineering systems 4   |
| <b>2. Number of credits</b>                      |   |
| <b>3. Prerequisites:</b>                         | Digitalization in engineering   |
| <b>4. Post-requirements:</b>                     | Thesis (project)  |
| <b>5. Competencies:</b>                          | <p>As a result of studying the course, the student should know:</p> <ul style="list-style-type: none"> <li>- modern mathematical methods of calculation modeling of engineering systems of automatic control in relation to complex objects;</li> <li>- innovative technologies and calculation methods modeling of engineering systems for object management based on modern scientific approaches;</li> <li>- data on the development and design of complex and multifactorial tasks modeling of engineering systems by technical and scientific objects;</li> <li>- the results of scientific and experimental research and use the obtained data in the tasks of modeling engineering systems and high-tech processes.</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- apply the system of automation of scientific research in the structure of the studied control object and implement the results in practical engineering activities;</li> <li>- to present in-depth theoretical and applied problems of object identification and modeling of engineering systems based on various theoretical criteria and hypotheses;</li> <li>- formulate and solve identification problems in objects and control devices on the basis of modern theoretical methodologies and scientific approaches.</li> <li>- use theoretical knowledge for the development and research of process identification models using various software tools and modeling methods.</li> </ul> |

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|                                      | Own:<br>- knowledge on the interaction of automation elements and devices with computer control systems in the development of complex control engineering systems;<br>- the necessary experimental and theoretical data, taking into account modern knowledge in the field of modeling of engineering systems.<br>- the structure of optimal software and algorithms for modeling engineering systems.  |
| <b>6. Author of the course</b>       | The staff of the department of technological machines and equipment   |
| <b>7. Basic literature</b>           | 1. technology and transport of cargo transportation industries: educational resources /Yu.F. Klyushin, I. I. Pavlov, E. I. Surakov and others. - Tver: TGTU, 2002.<br>2. Bekmagambetov M., Smirnova S. transport system of the Republic of Kazakhstan: modern state and development problems. - Almaty, 2005.<br>3. Nurgozhin, M. R., Yavorsky, V. V. Computer Modeling Of Systems. Textbook. - Karaganda: Karstu, 2006.<br>4. Tailak B. E. computer modeling of systems. Educational component. - Karaganda: Karstu, 2013.   |
| <b>8. Content of the discipline:</b> | The concept of models and modeling. Classification of models and simulations. The main stages of modeling and their characteristics. Optimization models. Linear optimization model. The essence and tasks of optimal planning. Planning the placement of production facilities and enterprises. Linear mathematical models of production programs of enterprises. Optimization of the production plan. Optimization of product range planning. Economic and mathematical formulation of the transport problem. Methods for solving the transport problem. Methods of building a reference plan. Calculation of a plan with a broken balance. The task of operational transportation planning. Production and transport task. Selection of methods for optimizing transportation plans. General information about queuing systems. Classification of queuing systems. The simplest flow of requirements. Service time. Calculation formulas of the queuing theory. Network models. Network graph. Events and work. The critical path. Reducing network planning tasks to optimization ones. |

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| <b>1. Basic information about the discipline</b> |  |
| <b>Name of the discipline</b>                    | Interchangeability, standardization and technical measurements   |
| <b>2. Number of credits</b>                      | 5  |
| <b>3. Prerequisites:</b>                         | Descriptive geometry and engineering graphics  |
| <b>4. Post-requirements:</b>                     | Licensing and certification of vehicles and services   |
| <b>5. Competencies:</b>                          | Know and understand:<br>- general principles of interchangeability. The essence of standardization. Basic concepts.<br>- precision processing in the manufacture and restoration of machine parts.<br>- a unified system of tolerances and fits of smooth cylindrical joints.<br>- organizational and technical measures to improve the accuracy of interfaces (selective assembly).<br>- tolerances and fits of rolling bearings. |

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|                                      | <p>- interchangeability of keyway connections. Interchangeability of spline connections.</p> <p>Be able to:</p> <p>- perform the calculation of dimensional chains.</p> <p>Acquire practical skills:</p> <p>- calculation and selection of landings and qualities of smooth cylindrical joints.</p>  |
| <b>6. Author of the course</b>       | The staff of the Department of Standardization, Metrology and Certification  |
| <b>7. Basic literature</b>           | <p>1. Sergeev A. G., Latyshev M. V., Teregerya V. V. Metrology, standardization, certification. "I'm sorry," she said. Moscow: 2003.</p> <p>2. Fundamentals of interchangeability, standardization, certification and technical measurement. Quality management, Samsaev M. B. T., Almaty 2008.</p> <p>3. methodological recommendations on the discipline "fundamentals of interchangeability". Section 1,2, Usupov S. S., etc., Almaty, Kazntu, 2002.</p> <p>4. "fundamentals of interchangeability", Mendebaev T. M., Usupov S. S., Almaty, Kazntu, 2002.</p> <p>5. methodological recommendations for practical work. Askarov E. S., T. B., Almaty Kazntu, 2004.</p>   |
| <b>8. Content of the discipline:</b> | <p>Interchangeability as one of the principles of standardization. The principles that determine the scientific organization of standardization work. Smooth cylindrical joints. Basic concepts of geometric interchangeability. Nominal and actual dimensions. Limit dimensions and the concept of limit deviations. The physical meaning of the concept of admission. Size tolerance. The concept of conjugation. Gap, tightness. Landings. Uniform principles of construction of tolerance and fit systems for standard connections of machine parts and other products. Size ranges and intervals. Hole and shaft system. The unit of admission. Normal temperature. The quality of accuracy. The main operational requirements and the system of tolerances and fits of smooth cylindrical joints. The concept of "Basic deviation". The method of formation of plantings. The calibers are smooth. Limit calibers. Classification of calibers. Classification of deviations of geometric parameters of parts. A system for normalizing deviations in the shape and location of surfaces. Deviations and tolerances of the form. The system of normalization and designation of surface roughness. Basic terms and definitions. Roughness estimation parameters. The roughness designation in the drawings. The concept of surface undulation. The undulation of the surfaces of the parts. Tolerances and fits of rolling bearings. The accuracy of rolling bearings. Types of loading of rings. The choice of seats of rolling bearings on the shafts and in the housing. Threaded connections. The main provisions. The main parameters of the thread. Systems of tolerances and fits of metric threads. Keyway connections. Types of keyway connections. Tolerances and fitments of keyway joints. Splined connections. Methods of centering spline joints. Tolerances and fitments of spline joints with a straight profile. Tolerance system for cylindrical gears. Classification of gears by functional feature. Standards of accuracy of gears and gears. Types of tolerances and interfaces of gears.</p> |

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| <b>1. Basic information about the discipline</b> |                     |
| <b>Name of the discipline</b>                    | Transport logistics |
| <b>2. Number of credits</b>                      | 6                   |

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| <b>3. Prerequisites:</b>             | Logistics   |
| <b>4. Post-requirements:</b>         | Technological process management  |
| <b>5. Competencies:</b>              | <p>Know and understand:</p> <ul style="list-style-type: none"> <li>- the basics of the organization of transport logistics at the facility, the development of rational methods of working with clients.</li> <li>- the main methods of organizing work at the railway transport facility, the development of rational methods of working with clients.</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- to systematize the totality of elements of transport systems and other objects between which certain connections and relationships exist or can be created;</li> <li>- to consider the studied transport object as a complex of interrelated parts united by a common goal, to reveal its integrative properties, as well as internal and external links;</li> <li>- to identify a logistics problem at a transport facility, i.e. a discrepancy between the necessary (desired) and the actual state of affairs in the field of logistics;</li> <li>- to structure the logistics problem;</li> <li>- solve the transport and logistics problem using the methods of consistency, complexity, systematization.</li> </ul> <p>Own:</p> <ul style="list-style-type: none"> <li>- organization of transport and logistics work at the facility, development of rational methods of working with clients.</li> <li>- methods of organizing transport and logistics work at the railway transport facility, development of rational methods of working with clients.</li> <li>- methods of organizing effective transport and logistics work at an industrial transport facility, developing rational methods of working with clients.</li> </ul> |
| <b>6. Author of the course</b>       | The staff of the Department of Transport Engineering and Technology   |
| <b>7. Basic literature</b>           | <p>1. S. E. Bekzhanova, Z. S. Bekzhanov, Z. K. Bitleuva. Zhuk zhane kommerciyalyk zhymystardyn negizderi. Almaty: kazkka, 1-shi bolim, 2006-183 b.</p> <p>2. Management of freight and commercial work on railway transport: studies. for universities/ Smekhov A. A., povorozhenko v. v., deribas A. T. et al., pod Smekhova A. A.-m.: transport, 1990. - 351 p.</p>   |
| <b>8. Content of the discipline:</b> | Fundamentals of logistics. Types of logistics. Transport in terms of logistics. Transport logistics management. Transport and logistics complexes. Planning of transport and logistics complexes. Logistics solutions in warehousing. Logistics intermediaries. Logistics approach to the organization and management of cargo delivery. Legal bases of transport logistics support. Modern information technologies in the organization of transportation and management of the transportation process.  |

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| <b>1. Basic information about the discipline</b> |                  |
| <b>Name of the discipline</b>                    | Cargo management |



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| <b>2. Number of credits</b>          | 5   |
| <b>3. Prerequisites:</b>             | Transportation management on transport  |
| <b>4. Post-requirements:</b>         | Organization of cargo transportation  |
| <b>5. Competencies:</b>              | <p>Have an idea:</p> <ul style="list-style-type: none"> <li>- about the evolution of the concept of "Cargo science";</li> <li>- on the International transport classification of goods and the classification used on motor transport.</li> </ul> <p>To know:</p> <ul style="list-style-type: none"> <li>- rules for filling in transportation documentation;</li> <li>- safety measures during cargo transportation;</li> <li>- selection of protective equipment and marking marks.</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- determine the rates of natural loss of various types of cargo;</li> <li>- to draw up documentation for the transportation of goods;</li> <li>- calculate the number of cargo units in a transport container in accordance with standard standard sizes;</li> <li>- calculate the number of containers and pallets for the transportation of a given volume of cargo;</li> <li>- use the rules for calculating the delivery time of goods.</li> </ul> |
| <b>6. Author of the course</b>       | The staff of the Department of Transport Engineering and Technology   |
| <b>7. Basic literature</b>           | <ol style="list-style-type: none"> <li>1. Troitskaya N. A., Chubukov A.V. unified transport system-Moscow: Academy, 2012-240</li> <li>2. Izteleuova M. S. logistics infrastructure of transport systems: textbook. - Almaty: Kazatk, 2012.</li> <li>3. Oleshchenko E. M., Gorev A. E. fundamentals of cargo handling. Moscow: Academy Publ., 2005.</li> <li>4. Elovoy I. A. Freight Forwarding. UCH. met. benefits for practical activities. Gomel: Belgut, 2008.</li> <li>5. Jezher E. V., Yarmolovich R. P. transport characteristics of cargo. Nodded.: Phoenix, 2007.</li> <li>6. cargo transportation / rules for cargo transportation. Almaty: Media Transport, 2005.</li> </ol>  |
| <b>8. Content of the discipline:</b> | International transport classification of goods. Cargo and transport equipment. Rules of cargo transportation. Transportation of tarno-piece cargo. Transportation of bulk cargo. Transportation of perishable goods. Cargo transportation by containers and packages. Transportation of dangerous goods. Transportation of construction goods. Transportation of heavy and oversized cargo. Transportation of animals and birds and quarantined cargo. Transportation of automotive equipment. Transportation of oil and petroleum products. Safety precautions (TB) in the organization of cargo transportation. Requirements for professional selection, training and testing of knowledge on labor protection of employees.   |

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| <b>1. Basic information about the discipline</b> |                                   |
| <b>Name of the discipline</b>                    | Interaction of modes of transport |
| <b>2. Number of credits</b>                      | 5 Transport                       |

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| <b>3. Prerequisites:</b>  | management  |
| <b>4. Post-requirements:</b>  | Transport logistics   |
| <b>5. Competencies:</b>   | <p>To know:</p> <ul style="list-style-type: none"> <li>- forms of interaction between different types of transport;</li> <li>- patterns of development of technical means and operation of different types of transport;</li> <li>- features of different types of transport in a single transport system;</li> <li>- technical and operational characteristics of modes of transport;</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- choose technical means that ensure the interaction of different types of transport;</li> <li>- determine the structure and capacity of transport hubs.</li> <li>- determine the technological schemes of transshipment of main cargo at the points of transport docking.</li> </ul> <p>Own:</p> <ul style="list-style-type: none"> <li>- complex theory of technical operation of transport.</li> </ul> |
| <b>6. Author of the course</b>  | The staff of the Department of Transport Engineering and Technology   |
| <b>7. Basic literature</b>  | <ol style="list-style-type: none"> <li>1. Bekmagambetov M., Smirnova S. transport system of the Republic of Kazakhstan: modern state and development problems. - Almaty, 2005.</li> <li>2. Miloslavskaya S. V., Pluzhnikov K. I. multimodal and intermodal transformations. Moscow: Rosconsult Publ., 2001.</li> <li>3. Izteleuvam.S. I. doctor. Logical infrastructure of transport systems: textbook-Almaty: Association of higher educational institutions of the Republic of Kazakhstan, 2012.</li> </ol>   |
| <b>8. Content of the discipline:</b> Transport security and transport management system. Questions of the complex theory of technical operation of transport. Technical and operational characteristics of main modes of transport. Industrial transport. Urban and suburban transport. Economic indicators and their features on various types of transport. Principles and methods of choosing modes of transport. Direct multimodal transport and its efficiency. Transport hubs in the transportation process. Interaction processes in transport hubs. The main properties, classification and design principles of transport hubs. The main characteristics of the quality of the functioning of the transport hub. Technical and technological interaction of various types of transport in the nodes. Optimization of interaction processes occurring within the medium-term planning boundary. Determination of the power of permanent devices of transport nodes. Ways to improve the efficiency of various modes of transport. The state and main directions of the integrated development of transport systems of the Republic of Kazakhstan and other CIS countries, EvrAES. |   |

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| <b>1. Basic information about the discipline</b> |   |
| <b>Name of the discipline</b>                    | Organization of transportation and traffic management |
| <b>2. Number of credits</b>                      | 5   |
| <b>3. Prerequisites:</b>                         | Interaction of modes of transport                     |

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| <b>4. Post-requirements:</b>   | Technological process management  |
| <b>5. Competencies:</b>        | <p>To know:</p> <ul style="list-style-type: none"> <li>- general principles of management of operational work of transport, based on the use of advanced equipment and technology;</li> <li>- the work of individual transport facilities, taking into account the use of an automated control system;</li> <li>- theoretical foundations for optimizing production processes, and, consequently, the entire complex included in the technology of their work, taking into account economic efficiency when performing planned tasks;</li> <li>- a system for organizing a continuous logistics chain of cargo flows, taking into account the optimization of tasks when drawing up transportation plans;</li> <li>- theoretical bases for determining the throughput and carrying capacity of transport networks and objects with their various technical equipment and different working conditions;</li> <li>- use and development of the capacity and carrying capacity of transport networks;</li> <li>- fundamentals of the vehicle traffic management system, quality management and marketing in transport, operational indicators of the use of transport units;</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- to use the theoretical foundations of the studied discipline in production conditions;</li> <li>- to create an advanced technology for the operation of transport facilities using advanced working methods;</li> <li>- in operational conditions, make decisions on the maintenance of the transportation process, taking into account the effective use of vehicles based on the analysis of the activities of transport facilities;</li> <li>- perform technical and economic calculations on measures that ensure the efficiency of transport; acquire practical skills:</li> <li>- drawing up train schedules; - rights and obligations of dispatching personnel; - research of traffic parameters.</li> </ul> <p>Own:</p> <ul style="list-style-type: none"> <li>- operational indicators and the use of transport units.</li> </ul> |
| <b>6. Author of the course</b> | The staff of the Department of Transport Engineering and Technology   |
| <b>7. Basic literature</b>     | <ol style="list-style-type: none"> <li>1. S. E. Bekzhanova, Z. S. Bekzhanov, Z. K. Bitleuva. Zhuk zhane kommerciyal'nykh zhumystardyn negizderi. Almaty: kazkka, 1-shi bolim, 2006.</li> <li>2. Kobdikov M. A. et al. Organization of transportation and traffic management. - Almaty: KazATK, 2008.</li> <li>3. Klinkovshstein G. I., Afanasyev M. B. Organization of road traffic. - M. Transport-2001.</li> <li>4. Organization and management of traffic on railway transport: a textbook for students. institutions of the environment. prof. education / [V. A. Kudryavtsev, V. I. Badakh, K. A. Belov, etc.]; edited by V. A. Kudryavtsev. - M.: Publishing Center "Academy", 2006.</li> <li>5. Organization of road transport and traffic safety: textbook. manual for students. higher. studies. institutions / A. E. Gorev, E. M. Oleshchenko. - M.: Publishing center "Academy", 2006.</li> </ol>  |

**8. Content of the discipline:** Organization of transportation and traffic management on railway transport. Organization of transportation, traffic and operation of industrial transport. Organization of road traffic. Organization of transportation and traffic management on road transport. Organization of transportation and traffic management in air transport. Organization of transportation and traffic management on water transport.

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| <b>1. Basic information about the discipline</b> |  |
| <b>Name of the discipline</b>                    | Organization of cargo and commercial work  |
| <b>2. Number of credits</b>                      | 5  |
| <b>3. Prerequisites:</b>                         | Organization of transportation and traffic management  |
| <b>4. Post-requirements:</b>                     | Thesis (project)   |
| <b>5. Competencies:</b>                          | <p>To know:</p> <ul style="list-style-type: none"> <li>- technical means of cargo and commercial work, progressive ways of organizing transportation in transport logistics systems, including container and package, the basics of commercial activity of specialists in the organization and management of transportation; the basic principles of transport law, the construction of tariffs and the organizational structure of the management of freight and commercial work of railways, the basics of operational planning of transportation, modern methods of freight forwarding services for enterprises, organizations and citizens of the country, cargo transportation in direct, mixed and international communications;</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- use the organization of cargo and commercial work on the basis of advanced technology, automated control systems and integrated mechanization and automation of loading and unloading operations, use computer equipment in automated control systems, objectively evaluate measures to improve the technical equipment and technology of cargo and commercial work from the point of view of obtaining an economic effect, carry out measures to ensure the safety of train traffic, safety and environmental protection during the transportation of various goods, especially when transporting dangerous, heavy and bulk cargo;</li> </ul> <p>Acquire practical skills:</p> <ul style="list-style-type: none"> <li>- solutions of transport tasks for cargo and commercial work;</li> <li>- competent and skillful use of technical means of cargo and commercial work;</li> <li>- operational planning of cargo and commercial work.</li> </ul> |
| <b>6. Author of the course</b>                   | The staff of the Department of Transport Engineering and Technology  |
| <b>7. Basic literature</b>                       | <p>1. S. E. Bekzhanova, Z. S. Bekzhanov, Z. K. Bitleuva. Zhuk zhane kommerciyalyk zhumystardyn negizderi. Almaty: kazkka, 2-shi bolim, 2007.</p> <p>2. Management of cargo and commercial work on railway transport: textbook. for universities/ Smekhov A. A., povorozhenko v. v., deribas A. T. et al., pod Smekhova A. A.-M.: transport, 1990.</p> <p>3. Velmozhin, Gudkov V. A., Mirotin L. B. cargo automobile transportation: textbook for universities. - M.:</p>   |

hotline-telecom, 2007.

**8. Content of the discipline:** Fundamentals of cargo and commercial work management. Concentration and technical means of cargo and commercial work. Technology for performing cargo and commercial operations. Freight rates. General principles of the organization of the work of access roads. Technology of mass cargo transportation. Transportation of goods under special conditions. Management of cargo and commercial operations during the transportation of goods in mixed messages. The technology of cargo and commercial operations in international communications. Responsibility for transportation. Ways to improve cargo and commercial work on railway and road transport.

### 1. Basic information about the discipline

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| Name of the discipline  | Organization of cargo transportation  |
| 2. Number of credits    | 5   |
| 3. Prerequisites:       | Interaction of modes of transport   |
| 4. Post-requirements:   | Licensing and certification of vehicles and services  |
| 5. Competencies:        | <p>To know:</p> <ul style="list-style-type: none"><li>- regulatory legal acts defining the procedure for the transportation of goods by transport;</li><li>- main indicators of transport operation, organization of cargo transportation;</li><li>- dispatching management of the rolling stock operation.</li></ul> <p>Be able to:</p> <ul style="list-style-type: none"><li>- to ensure the safe transportation, or reception, placement of goods;</li><li>- fill in and work with regulatory legal acts that determine the procedure for transporting goods by transport.</li></ul> <p>Own:</p> <ul style="list-style-type: none"><li>- regulatory legal acts defining the procedure for the transportation of goods by transport;</li><li>- conclusion of a contract for the carriage of goods, provision of vehicles;</li><li>- containers for cargo transportation, receiving cargo for transportation, loading cargo into vehicles and unloading cargo from them;</li><li>- determine the terms of cargo delivery, cargo delivery, cargo storage in the carrier's terminal, cleaning of vehicles, containers, features of transportation of certain types of cargo.</li></ul> |
| 6. Author of the course | The staff of the Department of Transport Engineering and Technology   |
| 7. Basic literature     | <ol style="list-style-type: none"><li>1. Kirichenko, A.V. Transportation of export-import cargo. Organization of logistics systems / A.V. Kirichenko. - M.: St. Petersburg: Peter; 2nd edition, 2014.</li><li>2. Zhukterdi saktaluy, bekitu zhane zhuktanu. 2 bolim/ S. E. Bekzhanova, K. H. Kushukbayev, K. A. Murzabekova. Almaty: KazKKA, 2007.</li></ol>  |

3. Organization of cargo transportation. Textbook. - Moscow: SPb. [et al.]: Peter, 2013.

**8. Content of the discipline:** Organization of cargo transportation by means of transport; centralized cargo transportation, the effectiveness of centralized transportation; organization of transportation of various types of cargo; principles of organization of transportation of bulk bulk and bulk cargo; specialized rolling stock; transportation of goods along rational routes; pendulum and ring routes; shuttle transportation; transportation of goods by schedule hours; through traffic, traction shoulder system; transportation of goods in containers and packages; ways to reduce the cost of transportation; intercity transportation by transport. Regulatory legal acts defining the procedure for cargo transportation by transport: conclusion of a cargo transportation contract; provision of vehicles, containers for cargo transportation; acceptance of cargo for transportation; loading of cargo into vehicles and unloading of cargo from them; terms of cargo delivery; delivery of cargo; storage of cargo in the carrier's terminal; cleaning of vehicles, containers; conclusion of a contract for chartering a vehicle for cargo transportation; features of transportation of certain types of cargo; the procedure for drawing up acts and filing claims; maximum permissible masses, axial loads and dimensions of vehicles; forms and procedure for filling in the bill of lading and the order-order for the provision of a vehicle.

### 1. Basic information about the discipline

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| <b>Name of the discipline</b> | Fundamentals of patenting in transport   |
| <b>2. Number of credits</b>   | 3  |
| <b>3. Prerequisites:</b>      | Interchangeability, standardization and technical measurements   |
| <b>4. Post-requirements:</b>  | Thesis (project)   |
| <b>5. Competencies:</b>       | <p>When studying the discipline, the student must:</p> <p>know:</p> <ul style="list-style-type: none"> <li>- fundamentals of patent law and patenting in the Republic of Kazakhstan, the legal basis of protection and the conditions of patentability of OPS;</li> <li>- setting the goals and objectives of research;</li> <li>- methods of organizing and conducting research;</li> <li>- principles of analysis, hypotheses, generalization of available information.</li> </ul> <p>be able to:</p> <ul style="list-style-type: none"> <li>- prepare application materials for the issuance of an innovative patent and a patent for inventions, prepare application materials for the issuance of patents for a utility model and an industrial design;</li> <li>- conduct research work;</li> <li>- plan the conduct of experimental work;</li> <li>- rational selection and use of research equipment;</li> <li>- analyze the test results and form conclusions and recommendations.</li> </ul> <p>own:</p> <ul style="list-style-type: none"> <li>- on drawing up applications to Kazpatent for the issuance of an innovative patent and a patent for an invention,</li> </ul> |

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|                                      | for the issuance of patents for a utility model and an industrial design;<br>- preparation of scientific reports, reports, abstracts;<br>- on conducting scientific thematic discussions;<br>- on the implementation of individual stages of research work.  |
| <b>6. Author of the course</b>       | The staff of the Department of Transport Engineering and Technology  |
| <b>7. Basic literature</b>           | 1. author's right: ucheb.thank you [for students of jurid. vuzov] / I. V. Svechnikova. - 3-e nodded. Moscow: Dashkov I K*, 2012 .<br>2. patent right: educational use for universities / O. A. Gorodov. Moscow: Velby: Prospectus Publ., 2005.<br>3." Author's rights and obligations " (retrieved June 10, 1996)<br>4." commodity items, service items, and sales orders " (approved on July 26, 1999)<br>5. Place P 15.011-96 "patent research. Procedure and content of the event", 2010.   |
| <b>8. Content of the discipline:</b> | Description of the technical object. A model of a technical object. Statement of the problem of engineering creativity. An algorithm for solving inventive problems. Documents confirming the right to discovery and invention. The method of registration of an application for an invention. The concept of innovation and innovation activity. The legislation of the Republic of Kazakhstan in the field of innovation activity. Strategy of industrial and innovative development of the Republic of Kazakhstan for 2003-2015. Goals, principles and main directions of state support for innovation activities. Innovative infrastructure. Subjects of innovation activity: state bodies, technological business incubators, innovation funds, technoparks. Features of the implementation and financing of innovative projects. Innovative grants. Patent law. Objects and subjects of patent law. Patentability of industrial property objects. The concept of innovation and innovation activity. |

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| <b>1. Basic information about the discipline</b> |   |
| <b>Name of the discipline</b>                    | Organization of passenger transportation 5  |
| <b>2. Number of credits</b>                      |   |
| <b>3. Prerequisites:</b>                         | Organization of transportation and traffic management   |
| <b>4. Post-requirements:</b>                     | Thesis (project)  |
| <b>5. Competencies:</b>                          | Have an idea about:<br>- passenger transportation technologies;<br>- the structure of passenger transportation management;<br>To know:<br>- characteristics of the technical support of passenger transportation in long-distance, local and suburban traffic;<br>- the main technical, technological and economic indicators of passenger transportation;<br>- parameters that determine the traction power in passenger traffic and the scope of application of various types of traction;<br>- the main issues of organizing the movement of long-distance, local and suburban trains; |

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|                                      | <ul style="list-style-type: none"> <li>- the technology of operation of passenger, passenger technical stations and railway stations;</li> <li>- organization of ticket and cash operations for long-distance, local and suburban services, a system of centralized accounting and distribution of seats for passenger trains;</li> <li>- the system of organization of high-speed passenger traffic, requirements for the technical means providing it.</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- perform calculations for the analysis and forecasting of passenger traffic;</li> <li>- build diagrams of passenger traffic in long-distance, local and suburban services;</li> <li>- develop train schedules, work schedules of passenger, passenger technical stations and railway stations;</li> <li>- calculate the plan for the formation of passenger trains;</li> <li>- determine the need for trains and wagons to ensure the specified dimensions of transportation;</li> <li>- perform calculations to determine the power of the main devices of railway stations, passenger and passenger technical stations;</li> <li>- calculate the main technical and economic indicators of passenger transportation; acquire practical skills:</li> <li>- with the content of the main transportation documents for the organization of passenger transportation;</li> <li>- with the basics of organizing the work of ticket offices and the sale of travel documents;</li> <li>- with the organization of reference and information work at railway stations;</li> <li>- with foreign experience in the organization of passenger transportation in long-distance, local and suburban transport;</li> </ul> <p>Be competent:</p> <ul style="list-style-type: none"> <li>- in the planning and organization of the work of transport complexes of cities and regions, the organization of rational interaction of modes of transport that make up a single transport system, when transporting passengers;</li> <li>- in the application of legal, regulatory, technical and organizational bases for the organization of the transportation process and ensuring the safety of movement of vehicles in various conditions;</li> <li>- in the application of the latest technologies for controlling the movement of vehicles.</li> </ul> |
| <b>6. Author of the course</b>       | The staff of the Department of Transport Engineering and Technology   |
| <b>7. Basic literature</b>           | <ol style="list-style-type: none"> <li>1. Velmozhin, Gudkov V. A., Mirotin L. B. cargo transportation: textbook for universities. Moscow: goryachaya Liniya-telecom, 2007.</li> <li>2. Perepon V. P. Organization of transportation of cargo, Moscow: Rota, 2003.</li> <li>3. Bekzhanova S. E., Bekzhanov Z. S., Bitleuva Z. K. "I don't know," he said. Almaty: kazatk, Part 2, 2007.</li> </ol>   |
| <b>8. Content of the discipline:</b> | Fundamentals of passenger transportation. The need for passenger transportation. Organization of the movement of rolling stock. Organization and management of passenger automobile enterprises. Technology and organization of route transportation of passengers in urban traffic. Technology and organization of passenger transportation in intercity and international communications. Technology and organization of passenger car transportation. Dispatching control of passenger transportation. The quality of passenger service. Organization of passenger transportation control. Coordination of the work of automobile and other types of passenger transport. Organization of railway passenger  |



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| transportation |
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| <b>1. Basic information about the discipline</b> |
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| <b>Name of the discipline</b> | Freight forwarding services on transport |
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| <b>2. Number of credits</b> | 6 |
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| <b>3. Prerequisites:</b> | Cargo management |
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| <b>4. Post-requirements:</b> | Organization of cargo and commercial work |
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| <b>5. Competencies:</b> | <p>Know and understand</p> <ul style="list-style-type: none"> <li>- The main provisions of freight forwarding activities.</li> </ul> <p>Be able to</p> <ul style="list-style-type: none"> <li>- use the regulatory and legal framework for freight forwarding activities.</li> </ul> <p>Acquire practical skills</p> <ul style="list-style-type: none"> <li>- calculation and analysis of the quality indicators of cargo and passenger transportation, based on the organization and technology of transportation, the requirements for ensuring the safety of the transportation process.</li> </ul> |
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| <b>6. Author of the course</b> | The staff of the Department of Transport Engineering and Technology |
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| <b>7. Basic literature</b> | <ol style="list-style-type: none"> <li>1. Zhuravlev N. P. Transport and cargo systems, 2013.</li> <li>2. Mukhametzhanova A.V., Izbaïrova A. S. are the main directions of cargo and commercial work on railway transport. Almaty: Kazatk, 2009.</li> <li>3. Malybaev S. K., Balgabekov T. K., Isina B. M. management of Passenger Transportation. Karaganda 2012.</li> <li>4. Isina B. M., Ayapbekova zh. zh. management of Passenger Transportation. Methodological guide for the course project. Two thousand twelve</li> </ol> |
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| <b>8. The content of the discipline:</b> | The organizational and legal status of the agent-carrier and the freight forwarder-cargo owner. Contractual, legal and technological support of transport operations. The expedition of departure and arrival of goods. Forwarding operations in the cargo route. Feasibility study of goods transported under special conditions. Claim work. Additional operations of the feasibility study of goods. |
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| <b>1. Basic information about the discipline</b> |
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| <b>Name of the discipline</b> | Labor protection |
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| <b>2. Number of credits</b> | 4 |
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| <b>3. Prerequisites:</b> | Technology of mechanization of loading and unloading operations |
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| <b>4. Post-requirements:</b> | Thesis (project) |
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| <b>5. Competencies:</b>   | <p>Be able to:</p> <ul style="list-style-type: none"> <li>- to assess the state of safety at the production facility;</li> <li>- use personal and group protective equipment;</li> <li>- apply safe working methods on the territory of the enterprise and in production premises;</li> <li>- use eco-protective and fire-fighting equipment;</li> <li>- identify and analyze traumatic and harmful factors in the field of professional activity;</li> <li>- observe the rules of occupational safety, industrial sanitation and fire safety.</li> </ul> <p>To know:</p> <ul style="list-style-type: none"> <li>- types and rules of labor protection briefings;</li> <li>- legislation in the field of labor protection;</li> <li>- fire and explosion prevention measures;</li> <li>- regulatory documents on labor protection and health, the basics of occupational hygiene, occupational sanitation and fire safety;</li> <li>- general safety requirements on the territory of the enterprise and industrial premises;</li> <li>- the main causes of fires and explosions;</li> <li>- legal and organizational bases of labor protection at the enterprise;</li> <li>- preventive measures for safety and industrial sanitation;</li> <li>- the rights and obligations of employees in the field of labor protection;</li> <li>- rules for the safe operation of installations and devices;</li> <li>- Rules and norms of labor protection, safety, personal and industrial sanitation and fire protection.</li> </ul> |
| <b>6. Author of the course</b>  | Коллектив кафедры стандартизации, метрологии и сертификации   |
| <b>7. Basic literature</b>  | <ol style="list-style-type: none"> <li>1. Akhmetov A., Akhmetova G. labor law: textbook. - Almaty: legal literature, 2005.</li> <li>2. Law of the Republic of Kazakhstan" on compulsory insurance of civil liability of an employer for causing harm to the life and health of an employee in the performance of Labor (official) duties": February 7, 2005, No. 30 // information system" paragraph " // www.zakon.kz</li> <li>3. Kotelova Yu. V. Ohrana Truda: a textbook. Moscow: Moscow University Publishing House, 2006.</li> </ol>   |
| <p><b>8. Content of the discipline:</b> Labor protection and its tasks. Legal bases of state management of labor protection. Collective agreement. The norms of labor legislation. Labor Protection Service. Instructions on labor protection, the procedure for their development. Training on labor protection and testing of knowledge of labor protection requirements. Office and corners of labor protection. Instructing employees on labor protection, the procedure for its conduct and registration. Labor protection management system (OSH) at transport equipment enterprises. The main provisions. The function of labor protection management. Supervision and control over the state of labor protection. Departmental supervision, public control and their types. Tasks of labor protection management. Psychology of labor protection. Industrial mental states. Ergonomic basics of work. Sanitary requirements for the device at computer equipment enterprises. Protection against adverse weather conditions of the air environment Protection against noise, vibration, infra-and ultrasound. Protection from harmful radiation. Industrial lighting.</p> |   |

| <b>1. Basic information about the discipline</b> |   |
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| <b>Name of the discipline</b>                    | Economics of enterprise and entrepreneurship  |
| <b>2. Number of credits</b>                      | 5   |
| <b>3. Prerequisites:</b>                         | Fundamentals of Economics and Law   |
| <b>4. Post-requirements:</b>                     | Thesis (project)  |
| <b>5. Competencies:</b>                          | <p>Know and understand</p> <ul style="list-style-type: none"> <li>- economics and planning of rolling stock operation, directions and ways to improve the economic efficiency of the development and reconstruction of technical means, the organization of labor and wages, the cost of transportation, pricing, finance, the basics of a market economy, various forms of management.</li> <li>- features of entrepreneurship in the Republic of Kazakhstan. Regulatory and legislative framework of entrepreneurship, small business and its place in the system of entrepreneurship in the field of organization of traffic transportation and operation of transport, Objects and subjects of entrepreneurship in the field of organization of traffic transportation and operation of transport.</li> <li>- an enterprise as an object of management, the main link of the economic system. Fixed capital of the enterprise, working capital of the enterprise,</li> <li>- the labor resources of the enterprise, the remuneration of labor at the enterprise, the costs of production and sales of products.</li> <li>- financial results of the company's activities, economic efficiency of the company's activities</li> <li>- entrepreneurship: the concept, essence, main types and organizational forms.</li> <li>- state support for entrepreneurship and its infrastructure.</li> <li>- financing of entrepreneurial activity.</li> <li>- business planning in entrepreneurial activity.</li> <li>- risks in entrepreneurial activity.</li> <li>- organization of business transactions, responsibility of business entities., termination of business activity.</li> </ul> <p>Be able to</p> <ul style="list-style-type: none"> <li>- analyze the cost of damage from road accidents, use methods for calculating the economic efficiency of capital investments, the needs of material resources of computer technology in economic analysis.</li> <li>- evaluate the effectiveness of entrepreneurial activity.</li> </ul> <p>Acquire practical skills</p> <ul style="list-style-type: none"> <li>- implementation of business planning in entrepreneurial activity.</li> </ul> |
| <b>6. Author of the course</b>                   | The staff of the Department of Economics  |
| <b>7. Basic literature</b>                       | 1. Bychkov V. P. economics of Motor Transport Enterprise: textbook. Nodded. NITS INFRA-M.-2015.   |

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|   | <p>2. Hegay O. M. Economic Education projects of the road movement organization. Ust-Kamenogorsk, 2003.</p> <p>3. Umbetaliyev A. D. enterprise economics and Entrepreneurship: textbook. Almaty: Ekonomika Publ., 2009.</p> <p>4. Tusupbekov T., Tengizbayeva T. economics of the Enterprise: textbook - Astana: Folio, 2008.</p> |
| <p><b>8. Content of the discipline:</b> Fundamentals of economics in the system of enterprise activity. An enterprise as a subject of a market economy. The production program and the production capacity of the enterprise. Fixed assets of the enterprise. Working capital of the enterprise. Personnel and wages. The costs of enterprises and the cost of production. Pricing, profit and profitability. Production process management systems at enterprises. Investment and innovation activity of the enterprise. Comparative characteristics of the organizational and legal forms of the enterprise. Calculation of the production capacity of the enterprise. Calculation of indicators of the use of fixed production assets. Calculation of indicators of the use of working capital and working capital. Calculation of the number of personnel of the enterprise. Calculation of labor productivity indicators. Calculation of labor cost norms. Calculation of the working time fund of employees of various categories. Calculation of the salary fund of various categories of employees. Calculation of the production program of the enterprise. Calculation of general production costs for the production of products. Preparation of the cost calculation of the product. Preparation of cost estimates.</p> |   |

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| <b>1. Basic information about the discipline</b> |  |
| <b>Name of the discipline</b>                    | Technology and mechanization of loading and unloading operations   |
| <b>2. Number of credits</b>                      | 5  |
| <b>3. Prerequisites:</b>                         | Logistics  |
| <b>4. Post-requirements:</b>                     | Technological process management   |
| <b>5. Competencies:</b>                          | <p>To know:</p> <ul style="list-style-type: none"> <li>- characteristics and organization of loading and unloading operations and warehouse operations and their significance in the transportation process;</li> <li>- measures to accelerate scientific and technological progress, radically increase labor productivity on the basis of widespread and accelerated implementation of scientific, technological achievements and best practices;</li> <li>- to know their technical and operational indicators of reliability, standardization, unification and patenting; to know ergonomic, aesthetic, labor and nature protection indicators, as well as to determine the economic efficiency indicators of complex mechanization and automation of loading and unloading operations and warehouse operations;</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- to organize highly efficient production of loading and unloading and warehouse operations based on the use of modern systems of machines, equipment, computer equipment that allow complex mechanization and automation of the entire transportation process from the receipt of raw materials to the shipment of finished products, including transportation, storage, loading and unloading and delivery to the consumer;</li> <li>- developed a highly efficient technological process for the production of loading and unloading and warehouse</li> </ul> |

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|                                      | <p>operations;</p> <ul style="list-style-type: none"> <li>- to draw up a technical and economic task for the design and creation of systems of new loading and unloading machines, to have the skills of variant design of mechanized complexes of engineering structures and warehouses, as well as their reconstruction; to organize the commissioning, maintenance and repair of modern means of mechanization and automation both centrally and by local means;</li> </ul> <p>Acquire practical skills:</p> <ul style="list-style-type: none"> <li>- in the development of schemes for complex mechanization and automation of loading and unloading operations and warehouse operations with the use of specified means of mechanization and automation for a certain volume of processing of bulk cargo, containers, heavy cargo and bulk cargo;</li> <li>- in the development and implementation of various options for complex mechanization and automation of loading and unloading operations for one of the specified loads.</li> </ul> |
| <b>6. Author of the course</b>       | The staff of the Department of Transport Engineering and Technology  |
| <b>7. Basic literature</b>           | <ol style="list-style-type: none"> <li>1. Zhuktasymaldauerezhesi/Rules of cargo transportation. Almaty: Media Transport, 2005.</li> <li>2. Kuanyshpaev Zh. M. Zhuktanu. - Karaganda :KarSTU, 2011.</li> <li>3. Bekzhanov Z. S. Temirzhol koligi men tasymaldau technologiyyasy zhane ony uyymdastyru: Okulyk. - Astana: "Parasat Alemi" baspasy, 2005.</li> <li>4. Oleshchenko E. M., Gorev A. E. Fundamentals of cargo science. Moscow: Academy, 2005.</li> <li>5. Elovoy I. A. Cargo science. Uch. met. a manual for practical classes. - Gomel: BelGUT, 2008.</li> <li>6. Jezher E. V., Yarmolovich R. P. Transport characteristics of goods. Ed.: Phoenix, 2007.</li> </ol>  |
| <b>8. Content of the discipline:</b> | <p>Characteristics of the process of moving goods, the place of PRTS-works in this process; Organization of loading and unloading operations on transport; Classification and main technical and operational indicators of loading and unloading machines and automation tools; Continuous-acting machines and devices; Machines and devices of periodic action; Special-purpose machines and equipment; Fundamentals of designing complex mechanization and automation of loading and unloading and warehouse operations; Technology and mechanization of loading and unloading of tare-piece cargo; Technology and mechanization of loading and unloading operations with cargo transported in containers and piggybacks; Technology and mechanization of loading and unloading of heavy long-length cargo; Technology and mechanization of loading and unloading of bulk and lumpy cargo.</p>   |

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| <b>1. Basic information about the discipline</b> |   |
| <b>Name of the discipline</b>                    | Transport layout of cities                            |
| <b>2. Number of credits</b>                      | 4   |
| <b>3. Prerequisites:</b>                         | Organization of transportation and traffic management |
| <b>4. Post-requirements:</b>                     | Thesis (project)                                      |
| <b>5. Competencies:</b>                          | Know and understand:                                  |

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|                                      | <ul style="list-style-type: none"> <li>- solid development of the urban transport system and the city's street network;</li> <li>- development of measures to improve the transport and operational characteristics of the network;</li> <li>- design of city streets;</li> <li>- ensuring traffic capacity, convenience and safety.</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- classify city streets and roads.</li> <li>- determine the planning schemes of the street network of cities.</li> <li>- determine the capacity of the city's street network.</li> <li>- design elements of the city's street and road network.</li> <li>- design urban freight roads.</li> <li>- determine traffic patterns at intersections of city streets.</li> </ul> <p>Own:</p> <ul style="list-style-type: none"> <li>- skills to determine the capacity of the city's street network.</li> <li>- skills to design elements of the city's street and road network.</li> <li>- skills to design city roads.</li> <li>- skills to determine traffic patterns at intersections of city streets.</li> </ul> |
| <b>6. Author of the course</b>       | The staff of the Department of Transport Engineering and Technology  |
| <b>7. Basic literature</b>           | <ol style="list-style-type: none"> <li>1. Kolic kozgalysyn bakylaudyn tekhnikal'nykh kuraldary: oku kuraly/ S. V. Bogdanovich.- Almaty: KazATK, 2009.</li> <li>2. Temirzhol koliginde kolicke zholaushylar tasmalyn uyymdastyru: okukuraly/ L. V. Vakhitova.- Almaty: KazKKA, 2009.</li> <li>3. Temirzhol koliginde zhuk zhane kommerciyalyk zhymystardyn negizderi: oku kuraly/ A.V. Mukhametzhanova, A. S. Izbaierova.- Almaty: KazKKA, 2009.</li> <li>4. Temirzhol koliginde aktilik-talap etu: okukuraly/ B. K. Musabayev, O. A. Tskhai, G. A. Bekseitov.- Almaty: KazKKA, 2008.</li> <li>5. Baymistruk A. S. Transport planning of cities. Methodological guidelines for the implementation of practical work, 2005.</li> </ol>   |
| <b>8. Content of the discipline:</b> | Transport problems of a modern city. Transport infrastructure. The structure of the city and its functional zoning. The connection of external highways with the city's street network. Planning schemes of the city's street network. Cross-section profile of a city street elements of a cross-section profile. Features of urban traffic. Patterns of motorization of cities. Mobility of the urban population. Urban highways of cargo traffic. Features of cargo traffic in cities. Urban passenger transport Pedestrian traffic in cities. Patterns of formation of pedestrian flows. Parking lots in cities. Classification of parking lots. Engineering equipment of city streets. Engineering networks on city streets. Lighting of city streets. Landscaping of streets and roads   |

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| <b>1. Basic information about the discipline</b> |   |
| <b>Name of the discipline</b>                    | Technological process management                      |
| <b>2. Number of credits</b>                      | 8   |
| <b>3. Prerequisites:</b>                         | Organization of transportation and traffic management |
| <b>4. Post-requirements:</b>                     | Thesis (project)                                      |

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| <b>5. Competencies:</b>   | <p>Know and understand:</p> <ul style="list-style-type: none"> <li>- concept, goals, tasks, functions, tools and methods of technological process management;</li> <li>- technological processes;</li> <li>- principles of planning in the management of technological processes;</li> <li>- organization of inventory management, distribution channels and distribution of goods;</li> <li>- basic transport services;</li> <li>- characteristics of the service in the management of technological processes.</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- plan the management of technological processes of the chain and schemes that ensure the rational organization of trade and material flows;</li> <li>- manage technological processes in the organization's department;</li> <li>- to study the reasons for the formation of excess commodity resources and illiquids;</li> <li>- develop measures for their implementation.</li> </ul> <p>Own:</p> <ul style="list-style-type: none"> <li>- information culture, analyze and evaluate information using information and communication technologies;</li> <li>- preparation of documentation for the supply and sale of goods;</li> <li>- manage inventory and flows.</li> </ul> |
| <b>6. Author of the course</b>  | The staff of the Department of Transport Engineering and Technology   |
| <b>7. Basic literature</b>  | <ol style="list-style-type: none"> <li>1. Kolik kozgalysyn bakylaudyn teknikalyk kuraldary: oku kuraly/ S. V. Bogdanovich.- Almaty: KazATK, 2009</li> <li>2. Temirzhol koliginde kolikte zholaushylar tasymalyn uyymdastyru: okukuraly/ L. V. Vakhitova.- Almaty: KazKKA, 2009.</li> <li>3. Temirzhol koliginde zhuk zhane kommerciyalyk zhumystardyn negizderi: oku kuraly/ A.V. Mukhametzhanova, A. S. Izbaïrova.- Almaty: KazKKA, 2009.</li> <li>4. Temirzhol koliginde aktilik-talap etu: oku kuraly/ B. K. Musabayev, O. A. Tskhai, G. A. Bekseitov.- Almaty: KazKKA, 2008.</li> <li>5. Gadzhinsky A.M. Logistics Textbook for higher education-M.: Publishing and Trading Corporation "Dashkov and K", 2010.</li> </ol>   |
| <p><b>8. The content of the discipline:</b> The concept, goals and objectives of technological process management, its place in the educational process. History of technological process management development. Approaches to the management of technological processes and material flows. Prerequisites for the development of technological process management. Stages of development of technological process management. The economic effect of technology development. Concepts and principles of technological process management. Functions process control. Organizational structure management at the enterprise. Functional relationship between management and technology. Logistics and strategic planning. General characteristics of logistics methods. The concept of material flow. Types of material flows. Logistics operations and chains. The concept of a logistics system. Properties of the logistics system. Types of logistics systems. The logistics process. General characteristics of methods for solving logistics problems.</p> |   |

Modeling in logistics. Expert systems. Comparative characteristics of the classical and systemic approaches to the formation of systems. ABC analysis. XYZ analysis. Problems of cost accounting in logistics. Requirements for cost accounting systems in logistics. Features of accounting for logistics costs. Classification of costs in logistics. The costs of creating and maintaining stocks.

| <b>1. Basic information about the discipline</b> |  |
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| <b>Name of the discipline</b>                    | Ensuring traffic safety in transport   |
| <b>2. Number of credits</b>                      | 5  |
| <b>3. Prerequisites:</b>                         | Road conditions and traffic safety   |
| <b>4. Post-requirements:</b>                     | Organization of passenger transportation   |
| <b>5. Competencies:</b>                          | <p>Know and understand:</p> <ul style="list-style-type: none"> <li>- the main problems and prospects for the development of traffic safety in transport;</li> <li>- the main objects, phenomena and processes related to ensuring traffic safety in transport;</li> <li>- the main areas of activity for ensuring the safety and organization of traffic on various types of transport;</li> <li>- requirements for ensuring transport security for various categories of transport infrastructure objects and transport vehicles;</li> <li>- methods, engineering and technical means and systems for ensuring transport security used at transport infrastructure facilities;</li> <li>- the main trends in the changing conditions of transport operation.</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- identify potential threats and actions that affect the level of accidents in transport enterprises (organizations) and ensure the implementation of measures to ensure traffic safety at these facilities, depending on its various levels.</li> <li>- to use the main methods, methods and means of planning and implementing measures to ensure traffic safety in transport;</li> <li>- choose the optimal conditions for managing transport processes to ensure maximum efficiency of these processes at a given level of safety.</li> </ul> <p>Own:</p> <ul style="list-style-type: none"> <li>- organization of the work of the activities of the road transport organization to ensure traffic safety;</li> <li>- conducting an assessment of the state of the traffic safety level using accident analysis methods.</li> </ul> |
| <b>6. Author of the course</b>                   | The staff of the Department of Transport Engineering and Technology  |
| <b>7. Basic literature</b>                       | <ol style="list-style-type: none"> <li>1. Transport in the Republic of Kazakhstan 2009-2013. statistical collection.</li> <li>2. Law of the Republic of Kazakhstan dated April 17, 2014 No. 194-V "On Road Traffic" (with amendments and additions as of December 29, 2014)</li> <li>3. Professional standard "Ensuring the safety of the transportation process in road transport", approved by the order of the Minister of Transport and Communications of the Republic of Kazakhstan dated November 20, 2013 No. -904.</li> <li>4. Zhandarbekova A.M. Ensuring traffic safety in transport. Training manual. KazATU named after S. Seifullin 2016-217 s</li> </ol>   |



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|  | <p>5. Zhandarbekova A.M. Ensuring traffic safety in transport. Training manual. Astana, - Folio Publishing House, 2017-235 p</p> <p>6. Zhandarbekova A.M.-Ensuring traffic safety in transport. Methodological guidelines for performing practical work. KazATU named after S. Seifullin 2016-39 s</p> <p>7. Pugachev I. N., Gorev A. E., Oleshchenko E. M. Organization and safety of road traffic: textbook. manual for students. Higher. Studies. Institutions. - M. Academy, 2009 -272 p.</p> |
| <p><b>8. Content of the discipline:</b> Reliability of technical systems. Factors affecting traffic safety. Functions and duties of the authorized body in the field of ensuring BDD. Registration of an expert opinion on an accident. Interaction of the service with other services divisions of the motor transport company. The work of the database service in the implementation of special transportation. Violation of traffic safety on railway transport. Flight factors affecting the physical and chemical properties of cargo transported by air transport. The main areas of support for water transport.</p> |   |

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| <b>1. Basic information about the discipline</b> |  |
| <b>Name of the discipline</b>                    | Organization of road traffic   |
| <b>2. Number of credits</b>                      | 8  |
| <b>3. Prerequisites:</b>                         | Ensuring traffic safety in transport   |
| <b>4. Post-requirements:</b>                     | Thesis (project)   |
| <b>5. Competencies:</b>                          | <p>Know and understand:</p> <ul style="list-style-type: none"> <li>- general information about the structure of communication routes; the main issues of ensuring traffic safety in various road conditions;</li> <li>- classification of technical means of traffic management;</li> <li>- the organization of traffic, its tasks and opportunities in modern conditions;</li> <li>- fundamentals of the theory of transport flow and its main characteristics;</li> <li>- the concept of the road capacity and the level of its traffic load;</li> <li>- the main tasks for ensuring the movement of pedestrians;</li> <li>- the main factors affecting road safety, its provision by methods of management organization in specific conditions;</li> <li>- methods of studying the state of traffic and identifying shortcomings in its organization;</li> <li>- necessary technical support for traffic research;</li> <li>- the influence of the parking regime of vehicles on the streets and roads on the traffic efficiency and parking requirements;</li> <li>- the main international agreements and requirements concerning the organization of road traffic (ODD);</li> <li>- regulatory documents in the field of ODD.</li> </ul> <p>Have an idea:</p> <ul style="list-style-type: none"> <li>- about the main factors affecting the state of communication routes, and the main parameters of traffic light regulation.</li> <li>- about the main factors affecting the effectiveness of the ODD;</li> </ul> |

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|                                      | <p>- on the content of the essence of the measures that provided rational schemes of ODD.</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>- to organize and conduct a study of traffic flows on the street and road network (UDS) of cities and highways;</li> <li>- to conduct full-scale surveys of the quality of EDD on the streets and roads using the necessary devices and equipment; to analyze and summarize the materials of the primary accounting of road accidents (accidents) and prepare graphic material based on this analysis;</li> <li>- to collect the source material for the assessment of transport communications; road and transport characteristics of a particular UDS unit;</li> <li>- to draw up a technical task for the design of an ODD at a separate object or in a region with the necessary sketches of the proposed schemes of the ODD.</li> </ul>  |
| <b>6. Author of the course</b>       | The staff of the Department of Transport Engineering and Technology   |
| <b>7. Basic literature</b>           | <ol style="list-style-type: none"> <li>1. The Law of the Republic of Kazakhstan "On Road Traffic" No. 194-V of the ZRK dated April 17, 2014.</li> <li>2. Klinkovshtein G. I., Afanasyev M. B. Organization of road traffic: Textbook for universities. - M.: Transport, 2001 – - 247 p.</li> <li>3. Volya P. A., Novikov I. A., Semikopenko Yu. V., Guy L. E. Organization of the movement: A textbook. - Belgorod: Publishing house of V. G. Shukhov BSTU, 2012. - 287s.</li> <li>4. Vrubel Yu. A. Research in road traffic: An educational and methodological manual. - Minsk: BNTU, 2007. - 178 p.</li> <li>5. Ryabchinsky A. I., Gudkov V. A., Kravchenko E. A. Organization of transportation services and safety of the transport process: Textbook. - M.: Academy, 2011. - 256 p.</li> </ol>   |
| <b>8. Content of the discipline:</b> | Traffic flow. Mathematical description of the transport flow. Pedestrian flow. The capacity of the road. Determining the capacity of the road. Street and road network. Classification and characterization of methods. Methodology of field research. Traffic research equipment. Study of accident statistics. Analysis of conflict situations. Research of conflict situations. The main directions and methods of ODD. Separation of movement in space. Separation of motion in time. Formation of homogeneous traffic flows. Optimization of high-speed traffic. Traffic at intersections. One-way traffic. Circular motion. Organization of pedestrian traffic. The movement of route passenger transport. Temporary parking lots. Traffic on the squares. Traffic in the dark. Artificial lighting of streets and roads. Movement in winter conditions. Movement in a mountainous area. Organization of traffic in places of road repairs. Organization during traffic congestion. |

Head of the Department  
"Transport equipment and technologies"

Balgabekov T.K.