Қазақ инновациялық гуманитарлық- заң университеті
Казахский гуманитарно-юридический инновационный университет
Kazakh Humanitarian and Legal Innovative University

Ақпараттық-технологиялар және экономика факультеті
Факультет информационных технологий и экономики
Faculty of Information Technology and Economics

Информатика және математика кафедрасы
Кафедра информатики и математики
Department of Informatics and matematics

5В090100-"Көлікті пайдалану және жүк қозғалысы мен тасымалдауды ұйымдастыру"
5В090100 –" Организация перевозок,движения и эксплуатация транспорта"

5В090100 - "Organization of transport, traffic and transport operation"

ЭЛЕКТИВТІ ПӘНДЕР КАТАЛОГЫ

түскен жылы - 2018

КАТАЛОГ ЭЛЕКТИВНЫХ ДИСЦИПЛИН

год поступления - 2018

CATALOGUE OF ELECTIVE COURSES

year of admission – 2018

Семей, 2018 жыл
Семей, 2018 год
Semey, 2018 year

Awarded degree: bachelor in the field of specialty

Number elective courses	Name of the discipline	Numbe rofthe Credits		Prerequisites	Postrequisites	Brief description indicating the purpose of the study, executive summary, and expected results of the study (knowledge, skills, competences)
		RK	ECTS			
GENERAL COMPULSORY MODULES						
Besuretoselect						
1	Ecology with the basics of life safety	2	3	Ecology (high-school)		**Goal:**The study of health and safety - the formation and propagation of knowledge aimed at reducing mortality and health losses from factors and human protection in the from external influences, man-made and natural origin. **Content:**study of the safety hazard of life and their combination, as well as tools and protection from the dangers of the system. **Expected result:** **Know:**labor legislation of the Republic of Kazakhstan; rules of industrial safety, rules and norms of labor protection; safety requirements and methods of first aid in case of accidents;basic methods of protection of production personnel and the population from possible consequences of accidents, catastrophes, natural disasters, ability to make decisions in the conditions of risk; methods of an assessment of a condition of environment; bases of protection of natural resources, flora and fauna;the main legislative, legal and regulatory documents in the field of nature protection and rational use of natural resources; the environmental situation in the region, Kazakhstan, the world; the economic mechanism of environmental protection. **To be able to:** have the skills of Control parameters of negative impacts and assess their and Compliant with regulations. to solve specific problems in the field of nature protection. to link the solution of production tasks with compliance with the relevant environmental requirements; to plan and organize environmental work. **Own skills:** methods of knowledge to solve professional problems, the ability to solve problems professionally, work in a team, knowledge of safe working conditions in the workplace.

1	Psychology	2	3	School course is "Self-knowledge"		**Goal:** Forming of integral idea about psychological science and contemporaneity. **Contents:** Psychology is the objective inner world of man, опосредующий his co-operating with the outer world. She is characterized the form of active reflection by the subject of objective reality, arises up for the high-organized living creatures in the process of co-operating with the outer world and carries out a регулятивную function in their behavior. It is a higher form of intercommunication of living creatures with the subject world, shown in their ability to realize the motives and operate on the basis of the got information about the world. **Expected result:** **Know:** Essence of basic психологичеси processes and properties, mental conditions providing his vital functions to the man ; basic methods of psychology and able использоавать them in practice of activity taking into account her economic specific; psychological theories of personality, group and collective. **To be able to:** to use gain knowledge of п psychology in the practical activity; to organize individual and group activity of people taking into account their psychological features and compatibility; correctly to use a communicative competence in the process of group joint activity. **Own skills:** by the receptions of development of memory, thinking, analysis and generalization
2	Political Science	2	3	Modern history of Kazakhstan	Phylosophy	**Goal:** A political science course gives to the student necessary to the citizen a minimum of knowledge about political realities, codes of political conduct, political values, teaches to operate modern internationally-confessed category - by a concept vehicle, produces ability critically to analyse and forecast a political situation, develops interest and respect in national traditions, assists development of collaboration between people. To acquisition of such knowledge teaching of political science is oriented in quality. **Content:** Political science is the field of knowledge about politics in all her displays and intercommunications with other spheres of public life. Political science studies of relation different social, ethnic, religious and other groups

						concerning power, political institutes and foremost state and parties, political consciousness and culture, subjects of politics : personality, elites, leaders, nations, states etc., domestic and intergovernmental political processes. **Expected result:** **Know:** -object and tasks of course; basic maintenance of course " is political science"; - to capture fundamental knowledge of political theory; -there is a spectrum of achievements of historical idea in area of study of ancient culture. **To be able to:** -independently to work with literature of общегуманитарного character, able to find key world view problems and their decisions; -logically, system and critically to think; -to use the got luggage of philosophical erudition for formulation and proof of own judgements on different questions everyday. **Own skills:** general form
3	Sociology	2	3	School course "Man and society"	Philosophy	**Goal:** To form presentations for students about society, systems, constituents of him, conformities to law of his functioning and development, social institutes. **Content:** Sociology (from lats. societas is society of греч. λόγος it is science) is science dealing with society, systems, constituents of him, conformities to law of his functioning and development, social institutes, relations and communities. Sociology studies society, exposing the internal mechanisms of his structure and development of her structure **Expected result:** **Know:** laws of development and functioning of society; are features of analysis of the modern system of social inequality, social mobility and stratification; to own: by practical skills of independent analysis of the modern state of society. - to use in cognitive and professional activity base knowledge in area of humanitarian and economic sciences **To be able to:** to correlate knowledge of bases of sociology with professional activity; to own: by practical skills of application got knowledge at the analysis of real social **Own skills:** general form

4	Culturology	2	3	Modern history of Kazakhstan	Phylosophy	**Goal:** The primary purpose of discipline is presentation of культурологии as integral expression of humanitarian knowledge. Teaching of course " Culturology" must take into account, что- it is an independent and specific area of human culture, "living system" plugged in a modern sociocultural context. **Content:** Culturology " is related to the cycle of socially-humanitarian disciplines : history, political science, philosophy, sociology. Культурология carries out to функциии cognizableness of the world **Expected result:** **Know:** -structure and composition of modern culturological knowledge; - culturology and philosophy of culture; sociology of culture, cultural anthropology; culturology and history of culture **To be able to:** to distinguish the basic concepts of to distinguish the basic concepts of culturology : dynamics of culture, language and symbols of culture, cultural коды, cross-cultural communications, cultural values and norms, cultural traditions, cultural picture of the world, social institutes of culture : dynamics of culture, language and symbols of culture, cultural, cross-cultural communications, cultural values and norms, cultural traditions, cultural picture of the world, social institutes of culture **Own skills:** general form
5	Bases of anticorruption culture	2	3	The modern history of Kazakhsta		**Goal:** Ethnic processes in the modern world. Ethno-national identity (ethno-national identity). Ethnic minorities. Rights and problems of ethnic minorities. Types of intercultural interaction. Ethnic conflicts as a special category of conflicts. **Content:** The need to introduce this elective course is due to the urgency of the problem of formation of interethnic tolerance, Kazakhstan patriotism of the younger generation, as well as a competent understanding of the ethnic and political processes. **Expected result:** **Know:** create a professional culture, to improve the image, optimizing the interaction with the environment and in our culture, co- management structure, sustainable development in the context of modern changes. **To be able to:** set of basic moral - ethical-in norms and rules of social behavior, after-blowing that we strengthen the culture of high reputation, maintaining its reputation and tradition. **Own skills:** After the study of this discipline, students should. To know: the concept of the controls are anti-corruption culture. Identify a set of basic moral and

						ethical Work with the normative documents. in the field of economic knowledge.
6	Religious	2	3	Philosophy		**Goal:**Aim: development of tolerance to the traditions and culture of other nations. **Content:** Components of religion as a subject, the concept of religion, religion and ritual, religion and mythology, religion and magic, religion and mysticism, religion and spirituality, the concept of religious experience, religion and faith, religion and its role in society, religion, national and world. **Expected result:** **Know:** After studying this discipline, students should acquire the following skills and abilities the specific features of the subject of religion, signs of religious faith, structure and specificity of religious consciousness. **To be able to:** to recognize the signs of religious faith, to allocate animism as the main feature of religion, to distinguish between the basic creed. **Own skills:** possess the basic concepts of religion, to be competent in the field of religious studies.2
Basic disciplines						
Component of choice (CCh)						
1	Chemistry	2	3	School chemistry course	Occupational Safety and Health	**Goal:**Discipline creates a certain body of knowledge in chemistry, including the use of chemical laws in the modern technology processes, introduces students to ppolucheniemmaterialov with specified svoystvami.Kurs is divided into sections: the theoretical foundations of chemistry, including the basic laws of chemistry, structure of matter, the laws of chemical processes and special sections of the modern himiii containing the theory of solutions, electrochemical processes, and construction materials. **Content:**Ability to use vpraktike research concepts about thimicheskih processes in nature, the ways and methods of their description, the basic principles, laws of chemistry, of chemical and physical methods of research and rational processing of observational data, master the technique of solving different types of computing tasks. Promotes the development of creative thinking, skills of independent, cognitive activity, umeniemodelirovathimicheskie and physical phenomena using computer-technology. **Expected Result:** **Know:** Chemistry place among the natural basic understanding of the structure of atoms, molecules and the dependence of the properties of chemical substances on their the basic laws of

						behavior of chemical and electrochemical basic ways of formation and transformation of the role of chemistry in the development of new materials with desired properties, in solving environmenta. **To be able to:** Use chemical laws to solve practical problems; plan and carry out simple chemical make payments related. **Own skills:** to the use of experimental design and analysis of experimental literacy skills treatment with quantitative methods for determining the most important characteristics of the chemical reactions
1	Inorganic chemistry	2	3	School chemistry course	Labor safety eguipment safety	**Goal:** Discipline creates a certain body of knowledge in chemistry, including the use of chemical laws in the modern technology processes, introduces students to with specified svoystvami. Kurs is divided into the theoretical foundations of chemistry, including the basic laws of chemistry, structure of matter, the laws of chemical processes and special sections of the modern himiii containing the theory of solutions, electrochemical processes, and construction materials. **Content:** Ability to use vpraktike research concepts about thimicheskih processes in nature, the ways and methods of their description, the basic principles, laws of chemistry, of chemical and physical methods of research and rational processing of observational data, master the technique of solving different types of computing tasks. Promotes the development of creative thinking, skills of independent, cognitive activity, umeniemodelirovathimicheskie and physical phenomena using computer-technology. **Expected result:** **Know:** Chemistry place among the natural sciences; basic understanding of the structure of atoms, molecules and the dependence of the properties of chemical substances on their the basic laws of behavior of chemical and electrochemical systems; basic ways of formation and transformation of substances; the role of chemistry in the development of new materials with desired properties, in solving environmental. **To be able to:** use chemical laws to solve practical problems; plan and carry out simple chemical, make payments related. **Own skills:** to the use of skills of experimental design and analysis of experimental literacy skills treatment

						with quantitative methods for determining the most important characteristics of the chemical reactions.
2	Introduction to Specialty	2	3	Mathematics (school course), Physics (school course)	Integrated transport system	**Goal:** To familiarize the students with first-year students for their future profession - electric power, its importance in today's society, the history of development and its influence on technological progress. **Content:** The main directions of development of energy and power centralization of production and disposal of electricity, emergency measures, maintenance of electric power facilities. Prospects for energy development scientific research, new sources of energy. Power stations electric power generation and distribution technologies, the concept of power systems, electrical systems. Energy losses in power systems. Tasks loss reduction, ways to reduce losses. **Expected result:** **Know:** Accounting and control of electricity consumption in the enterprises, settlement system for consumption. Organization of maintenance of electrical equipment. Structures energy management schemes. Types of staff, of its activities. **To be able to:** Dispatching of power supply facilities. On the chosen specialty and capacity planning of the educational process of Transport and the performance of the Railways, the principles of town planning transport. **Own skills:** use industry-leading, cross-sectoral and international experience. Social psychologists cal foundations of collective management. Have skills: self-development of new production technologies;
2		2	3			**Goal:** To familiarize the students with first-year students for their future profession - electric power, its importance in today's society, the history of development and its influence on technological progress. **Content:** The content of the profession, job description, the objects of professional activities, professional activities. The main directions of development of energy and power, centralization of production and disposal of electricity, emergency measures, maintenance of electric power facilities. Prospects for energy development, scientific research, new sources of energy. Power stations, electric power generation and distribution technologies,

	Communiti auto transport			Mathematics (school course), Physics (school course)	Transport network	the concept of power electrical systems. **Expected result:** **Know:** On the chosen specialty and capacity planning of the educational process of Transport and the performance of the Railways, the principles of town planning transport. **To be able to:** Industry-leading cross-sectoral and international experience. Social psychologists cal foundations of collective management. **Own skills:** self-development of new production. Energy losses in power systems. Tasks loss reduction, ways to reduce electricity losses.
3	Descriptive Geometry and Engineering Graphics	4	3	Drawing (school course)	Diploma work	**Goal:** Is the formation of the students of the primary skills of graphic display of technical ideas with the help of the drawing, as well as the understanding of the drawing design of technical product and the operating principle of the imaged object. **Contents:** Theory of a drawing. Projection methods. Diagrams Monge. Methods for transformation of orthogonal projections. Positional and metric problems. Polyhedra. Surfaces of revolution. Axonometric projection. General rules for the drawings. Images: types, cuts, sections. Types of connections. Reading and detalirovanie assembly drawings. Scheme. Fundamentals of computer graphics of AutoCAD. Execution drawings and diagrams. Three-dimensional modeling. **Expected result:** **Know:** Adapting the orthogonal drawing, part of the basic package of the design documentation developed by the product and the stage of product development. **To be able to:** Oumet build on the orthogonal images of the drawing, as the simplest geometrical bodies and their composition, using the size of these objects. **Own skills:** Skills to work with reference books, skills definition (read) geometric shapes of parts for their images on the orthogonal drawing.
3	Computer modelling	4	3	Drawing (school course)	Diploma work	**Goal:** Is the formation of the students of the primary skills of graphic display of technical ideas with the help of the drawing, as well as the understanding of the drawing design of technical product and the operating principle of the imaged object. **Contents:** Theory of a drawing. Projection methods. Methods for transformation of orthogonal projections. Positional and metric problems. Polyhedra. Reading and detalirovanie

						assembly drawings. Fundamentals computer graphics of AutoCAD. Execution drawings and diagrams. Three-dimensional modeling. **Expected result:** **Know:** Adapting the orthogonal drawing, part of the basic package of the design documentation developed by the product and the stage of product development. **To be able to:** Oumet build on the orthogonal images of the drawing, as the simplest geometrical bodies and their composition, using the size of these objects. **Own skills:** Skills to work with reference books, skills definition (read) geometric shapes of parts for their images on the orthogonal drawing.
4	The engineering geodesy	2	3	Higher Mathematics, Drawing (school course)	Diploma work	**Goal:** Acquisition of theoretical and practical knowledge on the basic classical branches of higher geodesy. **Contents:** Construction of the geodetic networks (horizontal and vertical). Tochnye and precision surveying pribory. Mathematical methods for solving problems on the surface elipsoida. Teorii methods and methods of solving the basic problems of higher geodesy. **Expected result:** **Know:** The main objectives of development planning organization of residential areas, objectives and methods of vertical leveling. **To be able to:** Methods of designing the construction of cities and their accomplishmentto solve practical problems in engineering training and improvement in solving various urban problems. **Own skills:** Improve their skills in the design and implementation of land development, to classify and evaluate the urban areas, to carry out grading, drainage of surface water.
4	Cartography	2	3	Higher Mathematics, Drawing (school course	Diploma work	**Goal:** Acquisition of theoretical and practical knowledge on the basic classical branches of higher geodesy **Contents:** Construction of the geodetic networks (horizontal and vertical). Metody mathematical processing results izmereniy. Tochnye and precision surveying pribory. Geometriya earth ellipsoid. Mathematical methods for solving problems on the surface elipsoida. Teorii methods and methods of solving the basic problems of higher geodesy. **Expected result:** **Know:** The main objectives of organization of residential areas, objectives and methods of vertical leveling.

						To be able to: Methods of designing the construction of cities and their accomplishmentto solve practical problems in engineering training and improvement in solving various urban problems. **Own skills:** Improve their skills in the design and implementation of land development, to classify and evaluate the urban areas, to carry out grading, drainage of surface water.
5	Metrology, standardization and quality management	3	5	MatematikaI Physics (school course	Freight tufbsportation	**Goal:** To apply the knowledge, skills and competence in dealing with industrial and technological problems. **Contents:** Basic axioms and theorems of and simple rigid body plane of the basic concepts, laws and dynamics point theorem and mechanical basics of mechanics of and calculations of structural elements for strength and stiffness of the concept of temperature and mounting strains and stresses on the fatigue strength of materials and the equilibrium stability of deformable systems **Expected result:** **Know:** Know the main sections of theoretical mechanics. **To be able to:** Ability to solve problems on the topics of theoretical mechanics. **Own skills:** Has the skills determine the types of material flow bodies, kinematic and power parameters of structures.
5	Standardization, sertification and tehnical measurements	3	5	Higher Mathematics, Physics (school course	Rtgulation for the carriage of goods	**Goal:** To apply the knowledge, skills and competence in dealing with industrial and technological problems. **Contents:** Basic concepts axioms and theorems of kinematics and simple rigid body plane motion of the basic concepts laws and dynamics point theorem and mechanical basics of mechanics of stress calculations of structural elements for strength and stiffness of the concept of temperature and mounting strains and stresses on the fatigue strength of materials and the equilibrium stability of deformable systems. **Expected result:** **Know:** Know the main sections of theoretical mechanics. **To be able to:** Ability to solve problems on the topics of theoretical mechanics. **Own skills:** Has skills determine the types of flow-governmental bodies, kinematic and power parameters of structures.
6	Theoretical mechanics	3	5	Higher Mathematics	Applied mechanics	**Goal:** To apply the knowledge, skills and competence in dealing with industrial and technological problems. **Contents:** Basic axioms and of kinematics and simple rigid body movements; plane motion of the body; basic concepts, laws and dynamics point

						theorem and mechanical basics of mechanics of materials. **Expected result:** **Know:** Stress and calculations of structural elements for strength and stiffness simple deformations. **To be able to:** The concept of temperature and mounting strains and stresses on the fatigue strength of materials and the equilibrium stability of deformable systems. **Own skills:** Mechanisms of structure; transmitting rotary lever and cam shafts, axles and rolling and seals and lubricants and dand permanent connections.
6	Designing of machine parts	3	5	Higher Mathematics	Mechanical transport works	**Goal:** To apply the knowledge, skills and competence in dealing with industrial and technological problems. **Contents:** Basic axioms and theorems kinematics and simple rigid body plane motion of the concepts, laws and dynamics point theorem and mechanical systems. **Expected result:** **Know:** basics of mechanics of materials; stress and strain; calculations of structural elements for strength and stiffness of simple deformations; **To be able to:** The concept of temperature and mounting strains and stresses on the fatigue strength of and the equilibrium stability of deformable systems. **Own skills:** Mechanisms of structure; transmitting rotary lever and cam shafts, axles and clutch; rolling and seals and lubricants and detachable and permanent connections.
7	Integrated transport system	3	5	Higher Mathematics, Physics, Engineering geodesy, Introduction to Specialty	Technology and mechanization of cargo handling works, The basic theory of vehicles, Passenger transportation	**Goal:** Disclosure laws, formation of the transport complex taking into account the general transport issues and characteristics of individual types of transport. **Contents:** Transport security and transport management system. Questions of complex technical operation of transport theory. Technical and operational characteristics of the main types of transport. Industrial vehicles. Ekonomicheskie indicators and features on the various forms of transport. Principles and methods for selecting modes of transport. **Expected result:** **Know:** Forms of interaction between different modes of transport, the general lawsdevelopment of hardware and operating various types of transport. **To be able to:** Especially different modes of transport in an integrated transport system. **Own skills**. Innovative methods of development of technical means and

						operation of different types of transport.
7	Transport network	3	5	Higher Mathematics, Physics, Cartography, Communiti auto transport	The mechanization of loading and unloading of railway transport, Bases of transport system, International transportation	**Goal:** Disclosure the formation of the transport complex taking into the general transport issues and characteristics of individual types of transport. **Contents:** Transport security and transport management system, of complex technical operation of transport theory. Technical and operational characteristics of the main transport. Ekonomicheskie indicators and features on the various forms of transport, and methods for selecting modes of transport. **Expected result:** **Know:** Forms of interaction between different modes of transport, the general lawsdevelopment of hardware and operating various types of transport. **To be able to:** Especially different modes of transport in an integrated transport system. **Own skills:** Determine the value of each type of transport and transport system Generally, apply the principles of the formation of an integrated transport system
8	Applied mechanics	3	5	Theoretical mechanics	The basic theory of vehicles	**Goal:** Formation at students knowledge in the field of applied mechanics. **Contents:** Fundamentals of Applied mechanics theory. Electrical apparatus kinematic switching Basic theory vehicles. Bases of technical operation of and communications equipment, rolling stock. **Expected result:** **Know:** Foundations device types of machines and mechanisms;basic methods for determining the kinematic characteristics of the units and power factors acting on the links during the operation of the mechanism. **To be able to:** Basic methods research napryazhè nno -deformed condition and MY olneniya raschè tov on strength of standard elements. **Own skills:** Methods of design and verification of standard raschè tov sequence design prod implementation of development, for ensuring interchangeability elements.
8	Mechanical transport works	3	5	Designing of machine parts	Bases of transport system	**Goal:** Formation at students knowledge in the field of applied mechanics **Contents:** Fundamentals of Applied Mechanics theory. Electrical apparatus kinematic switching Basic theory vehicles. Bases of technical operation of vehicles, signaling and communications equipment, rolling stock **Expected result:** **Know:** Foundations device of machines and mechani sms, basic methods for determining the kinematic characteristics

						of the units and power factors acting on the links during the operation of the mechanism. **To be able to:** Basic methods research napryazhè nno -deformed condition and MY olneniya raschè tov on strength of standard elements. **Own skills:** Methods of design and verification of standard raschè tov sequence design prod implementation of framework for interchangeability elements.
9	Electrical and bases electrical engineers	3	5	Higher Mathematics, Physics	Railway Stations and Junctions, Automated control systems (transport)	**Goal:** Preparation for production activities in the area of operation, installation and commissioning, maintenance and testing, diagnosis and of electricity and electrical equipment. **Contents:** Foundations of legal, technical and organizational basis for basic physiology and rational anatomical and physiological effects of human exposure to traumatic, harmful and damaging factors; means and methods to improve electrical safety. **Expected result:** **Know:** The basic theory of electric chains of DC, AC and three-phase current, the basic theory and principle of operation of the transformer and electric cars. **To be able to:** The most important provisions of the basic methods of metrology and electrical measurements. **Own skills:** To be able to: apply the basic laws and the ratio of the electrical circuits of DC, AC and three-phase current for analysis and calculation to read wiring diagrams and understand some of the main components eletkrooboroduvaniya
9	Electrica machine	3	5	Higher Mathematics, Physics	Path and station arrangment , Automated system of train control	**Goal:** Preparation for production activities in the area of operation, installation and commissioning, and testing, and monitoring of electricity and electrical equipment. **Contents:** Foundations of legal, regulatory, the and organizational basis for electrical safety; basic physiology and rational operating environment; anatomical and physiological effects of human exposure to traumatic, harmful and damaging factors; means and methods to improve electrical safety. **Expected result:** **Know:** The basic theory of electric chains of DC, AC and three-phase current, the basic theory and principle of operation of the transformer and electric cars, the most important provisions of the basic methods of metrology and electrical measurements. **To be able to:** Apply the basic laws and

						the ratio of the electrical circuits of DC, AC and three-phase current for analysis and calculation to read wiring diagrams and understand some of the eletkrooboroduvaniya. **Own skills:** The use of methods and methods of mathematical analysis and modeling, theoretical and experimental research to determine the electromechanical properties, and characteristics of machines, performance of tests of electrical machines, processing, analysis and presentation of experimental research results.
10	The basic theory of vehicles	3	5	Integrated transport system	Kazakhstan's transport network	**Goal:** Learning the principles of action, the design features of the vehicles, their layout and placement of equipment, the main technical characteristics. **Contents:** General device transport sredstv. Rabochy process and basic parameters motor. Auxiliary internal combustion engines. Power transmission systems of vehicles. Vehicle brake system. **Expected result:** **Know:** Know the design features of the vehicles to ensure their active, the passive, post-accident environmental safety, engineering calculations and tools for vehicle safety devices. **To be able to:** Competently approach the analysis of the efficiency of the use of vehicles, master new vehicle designs **Own skills:** Has the skills evaluation designs vehicles and motor vehicles and their components and assemblies from the perspective of active, passive, environmental and disaster safety, analyzing materials accident statistics.
10	Bases of transport system	3	5	Transport network	The railway network in Kazakhstan	**Goal:** Learning the principles of action, the design features of the vehicles, their layout and placement of equipment, the main technical characteristics. **Contents:** General device transport sredstv.Rabochy process and basic parameters of the motor. Auxiliary sistemyzhizneobespecheniya internal combustion engines. Electric vehicles. Power transmission systems of vehicles. Vehicle brake system. **Expected result:** **Know:** The design features of the vehicles to ensure their active, the passive, post-accident and environmental safety, engineering calculations and tools for vehicle safety devices. **To be able to:** Know how to analyze the basic regulations. **Own skills:** has the skills evaluation designs vehicles and motor vehicles and their components and assemblies from the perspective of active, passive, environmental and disaster safety,

						analyzing materials accident statistics
11	Organization and traffic safety	3	5	Organization of transport and traffic management	Occupational Safety and Health, Kazakhstan's transport network, Traffic Management	**Goal:** Formation at students of scientific and prfessionalny knowledge and skills in the field of structural safety of vehicles. Discipline reveals osnovnue position reliability of the car and its maintenance practices and reveals the role of the safety of vehicles**.** **Content:** Security Types avtomobilya.Ekspluatatsionnye by the car. The layout of the car settings. Traction and braking dynamics of the vehicle. Stability and handling. Ride car. Effect of wear on projector performance properties. Types of vehicle information content. Visibility and sound car descriptiveness. The driver. Evaluation of passive safety. Internal passive safety. External passive safety. Disaster safety. **Expected result:** **Know:** key indicators and characteristics of road transport work, especially as the road works transport facilities, the movement patterns traffic. **To be able to:** to carry out road survey to assess the modes of transport movement flow and traffic safety, to develop measures to improve transport - operational kaches tv road. **Own skills:** safety and moving.
11	Organization of traffic	3	5	Organization of transport and traffic management	Labor safety eguipment safety, The railway network in Kazakhstan, The organization trains	**Goal:** Formation at students of scientific and prfessionalny knowledge and skills in the field of structural safety of vehicles. Discipline reveals osnovnue position reliability of the car and its maintenance practices and reveals the role of the safety of vehicles**.** **Content:** Security Types avtomobilya.Ekspluatatsionnye by the car. The layout of the car settings. Traction and braking dynamics of the vehicle. Stability and handling. Ride car. Effect of wear on projector performance properties. Types of vehicle information content. Visibility and sound car descriptiveness. The driver. Evaluation of passive safety. Internal passive safety. External passive safety. Disaster safety. **Expected result:** **Know:** key indicators and characteristics of road transport work, especially as the road works transport facilities, the movement patterns traffic. **To be able to:** to carry out road survey to assess the modes of transport movement flow and traffic safety, to develop measures to improve transport - operational kaches tv road safety and moving. **Own skills:** Special terminology and vocabulary of the

						present discipline of self-mastering new knowledge in the development of theory and practice of vehicle safety.
12	Transport logistics.	3	5	Means of transport	Freight transportation	**Goal:** To ensure receipt of products to the consumer at the right time and place at the lowest possible total cost of labor, material and financial resources. Supply of raw materials, finished products on time has a beneficial effect on the functioning of the entire economic system can significantly reduce inventories and costs ihformirovaniyui content, the total costs of production and circulation. **Contents:** The integrated system of active management of material flows through the application of modern information technologies and optimization of economic decisions to consider the subject's inside them and aimed at achieving high-end performance. **Expected result**: **Know:** logistics aspects of the production; information logistics software; key support functions and logistics systems. **To be able to:** logistics planning and management; logistical peculiarities of formation and macro systems management. States tion management and logistics support systems.
12	Logistics	3	5	Traction and rolling stock	Freight transport systems	**Goal:** To ensure receipt of products to the consumer at the right time and place at the lowest possible total cost of labor, material and financial resources. Supply of raw materials, finished products on time has a beneficial effect on the functioning of the entire economic system can significantly reduce inventories and costs ihformirovaniyui content, the total costs of production and circulation. **Contents:** The integrated system of active management of material flows through the application of modern information technologies and optimization of economic decisions to consider the subject's inside them and aimed at achieving high-end performance. **Expected result**: **Know:** logistics aspects of the production; information logistics software; key support functions and logistics systems; logistics planning and management; **To be able to:** logistical peculiarities of formation and macro systems management. **Own skills:** States tion management and logistics support systems.
13	Railway Stations and	3	5	Electrical and	Design diploma	**Goal:** To ensure receipt of products to

	Junctions			bases electrical engineers		the consumer at the right time and place at the lowest possible total cost of labor, material and financial resources. Supply of raw materials, finished products on time has a beneficial effect on the functioning of the entire economic system can significantly reduce inventories and costs the total costs of production and circulation. **Contents:** The integrated system of active management of material flows through the application of modern information technologies and optimization of economic decisions to consider the subject's inside them and aimed at achieving high-end performance. **Expected result**: **Know:** To know:logistics aspects of the production information logistics software key support functions and logistics systems; logistics planning and management logistical peculiarities of formation and macro systems management statestion management and logistics supportsystems. **To be able to:** Offer quality manufacturing services develop technological schemes of material flow manage basic functions logistic. **Own skills:** Information system in logistics rasschity.
13	Path and station arrangment	3	5	Electrica machine	Design diploma	**Goal:** To ensure receipt of products to the consumer at the right time and place at the lowest possible total cost of labor, material and financial resources. Supply of raw materials, finished products on time has a beneficial effect on the functioning of the entire economic system can significantly reduce inventories and costs ihformirovaniyui content, the total costs of production and circulation. **Contents:** The integrated system of active management of material flows through the application of modern information technologies and optimization of economic decisions to consider the subject's inside them and aimed at achieving high-end performance. **Expected result**: **Know:** To know: logistics aspects of the production; information logistics software; key support functions and logistics systems logistics planning and management; logistical peculiarities of formation and macro systems management Statestion management and logistics supportsystems. **To be able to:** Offer quality manufacturing service develop

						technological schemes of material flow manage basic functions. **Own skills:** Iogistic information system in logistics rasschity.
14	Information Technology	3	5	Computer science school course	Automated control systems (transport)	**Goal:** Processes, methods of research collection, storage, presentation, rasprostronenie and ways to implement such processes methods, techniques, methods, and methods of use of computer technology in the performance of the functions of collecting, storing, processing, ispolzovaniyadannyh, resources needed for the collection, processing, and rasprostronenie information. **Contents:** Information technolog covers all the creation, transmission, storage and reception of information, not limited kompyuternymi and it is no coincidence: the emergence of computers has brought IT to the next level, as once TV, and before printing. **Expected result**: **Know:** basic knowledge of color adjustment p azlichnyh computer programs. **To be able to:** obtain the skills needed to perform in graphics Programs. **Own skills: B**y a structure and levels of construction of АСУ on a transport, by bases of communication of data; concept about bases and jars of data of АСУ, by cooperation of different types of transport.
14	Information Sistems	3	5	Computer science school course	Automated system of train control	**Goal:** Processes, methods of research, collection, storage, presentation information and ways to implement such processes methods, techniques, methods, and methods of use of computer technology in the performance of the functions of collecting, storing, processing, transmissio ispolzovaniyadannyh, resources needed for the collection, processing, storage and rasprostronenie information. **Contents:** Information technolog covers all the creation, transmission, storage an reception of information, not limited kompyuternymitehnologiyami, and it is no coincidence: the emergence of computers has brought IT to the next level, as once TV, and before printing. **Expected result**: **Know:** To know: basic knowledge of color adjustment p azlichnyh computer programs. **To be able to:** obtain the skills needed to perform in graphics Programs. **Own skills: P**reparations of documents with the use of office software products (MS Word, MS Excel, MS Access, MS

						PowerPoint.
15	Occupational Safety and Health	3	5	Organization and traffic safety	Design diploma	**Goal:** To prepare engineers who need to know the scientific and engineering foundations of occupational safety and health and be able to apply them in practice in dealing with issues of safe and harmless working conditions, prevention of injuries, occupational diseases, accidents. **Content:** Organisation of labor protection at the enterprise Dangerous harmful production factors the functionality of the human and its compatibility with the working environment safety psychology, vibration, noise and microclimate conditions in the work are electromagnetic field of electric power transmission lines **Expected result**: **Know:** To know: -osnovy lawpravovoy framework for occupational safety and health and industrial processes Nature of hazardous and harmful factors in the processes of the manufacture. maintenance and repair of production facilities; is the order of operation, maintenance, and storage resources to protect people dangerous andharmful. **To be able to:** Production governmental factors principles ensure security and industrial equipment industrial processes measures of occupational injuries the procedure of investigation industrial accidents organization works to protect and bezop. **Own skills:** Labour bout their dangers in the workplace; -principles fire safety at industrial sitesproduction, etc.
15	Labor safety eguipment safety	3	5	Organization of traffic	Design diploma	**Goal:** To prepare engineers who need to know the scientific and engineering foundations of occupational safety and health and be able to apply them in practice in dealing with issues of safe and harmless working conditions, prevention of occupational injurie occupational diseases, accidents. **Content:** Organisation of labor protection at the enterprise dangerous harmful production factors the functionality of the human and its compatibility with the working environment; safety psychology, vibration, noise and microclimate conditions in the work area; electromagnetic field of electric power transmission lines. **Expected result**: **Know:** To know: osnovy lawpravovoy framework for occupational safety and health and industrial processes Nature of hazardous and harmful factors in the processes of the manufacture,

						installation, maintenance and repair of production facilities; is the order of operation, maintenance, and storage resources to protect people from dangerous andharmful production governmental factors. **To be able to:** Principles ensure security and industrial equipment industrial processes measures of occupational injuries the procedure of investigation industrial accidents organization works to protect and bezop. **Own skills:** Labour bout their dangers in the workplace principles fire safety at industrial sitesproduction etc.
16	Passenger Transportation	2	3	Organization of transport and traffic management, Integrated transport system	Design diploma	**Goal:** Is the study of theoretical foundations and practical skills potehnologiii, the organization of the management of passenger transport by rail to solve specific production problems. **Contents:** Principles of passenger perevozok.Uprapvlenie passenger traffic. Types of messages for the carriage of passenger perevozok. Pravila passazhirov.Osnovnye performance of passenger traffic. The organization of luggage transport and gruzobagazhnyh. Classification of passenger service poezdov.Tehnicheskoe passenger rolling equipment sostava organizatsiya vagonov acceptance compositions sent to th Passenger stantsii.Organizatsii work station. Agreement on passenger traffic with foreign countries. **Expected result**: **Know:** The general principles of the organization passazhisrkih transport the technical means for the organization passazhiskrih transport. **To be able to:** The basic principles of traffic rights, tariffs and build organizational structure of management of passenger transportation operation of railways; **Own skills:** **T**ransportation passengers in different reports.
16	International transportation	2	3	Organization of transport and traffic management, Transport network	Design diploma	**Goal:** the study of theoretical foundations and practical skills potehnologiii, the organization of the management of passenger transport by rail to solve specific production problems. **Contents:** Principles of passenger perevozok.Uprapvlenie passenger traffic. Types of messages for the carriage of passenger perevozok. Pravila passazhirov. Osnovnye performance of passenger traffic. The organization of luggage transport and gruzobagazhnyh. Tehnicheskoe passenger rolling

						equipment sostavaOrganizatsiya vagonov.Poryadok acceptance compositions sent to the flight. Organizatsii work station. Agreement on passenger traffic with foreign countries **Expected result**: **Know:** The general principles of the organization passazhisrkih transport; the technical means for the organization passazhiskrih transport. **To be able to:** The basic principles of traffic rights, tariffs and build organizational structure of management of passenger transportation operation of railways. **Own skills:** Transportation passengers in different reports.
17	Bases of technical operation of vehicles	3	5	Means of transport	Design diploma	**Goal:** The purpose of the discipline acquisition of knowledge about the basic methods of train control, methods of technology development, systems management, improve technical equipment and optimal long-term development of railway sections and directions of how to ensure traffic safety and labor protection. **Contents:** Basics of management of operational work railways. The organizational structure of management of railway transport. **Expected result**: **Know:** The role of basic services to ensure the transportation process. **To be able to:** Knowledge of and compliance with PTE, the IRD, IRS, providing traffic safety. General information about the railway stations. Designation and classification of plants. **Own skills:** The structure of the station management. Basic documents governing the work stations
17	Principles and norms of design of transport complexes	3	5	Traction and rolling stock	Design diploma	**Goal:** The purpose of the discipline acquisition knowledge about the basic methods of train control, methods of technology development, systems improve technical equipment and optimal long-term development of railway sections and directions of how to ensure traffic safety and labor protection. **Contents:** Basics of management of operational work railways. The organizational structure of management of railway transport. **Expected result**: **Know:** The role of basic services to ensure the transportation process. **To be able to:** Know ledge of and compliance with PTE, the IRD, IRS, providing traffic safety. General information about the railway stations. **Own skills:** Designation and classification of plants. The structure of the station management. Basic documents governing the work stations.

Profiling discipline						
Elective course						
1	Transport legislation	2	3	Bases of right	Organization of production and enterprise management, Freight transportation, Licensing and Certification Basics	**Goal:** Training of future specialists in the ability to analyze, evaluate the importance of the laws of new legal reforms in the activities of transport enterprises,understanding the role and importance of economic contracts,strict observance of the rule of law in the field of transport. **Contents:** the Role of the study of transport legislation is to improve the legal culture of future professionals by improving the quality of teaching the subject, bringing to each student the high principles of our laws. **Expected result:** **Know:** navigate and analytically perceive the phenomena of legal reality; use legal knowledge in practice; analyze, think independently, have a certain methodological basis for the assimilation of the subject;understand the essence of the emerging legal situation. **Be able to:** work with texts of normative legal acts; solution of arising situations from the position of law;work on yourself, for the development of an active life position. **Own skills:** knowledge of the law, independently expand horizons, develop the ability to law enforcement.
1	Transparent right	2	3	Bases of right	Basis of entrepreneurship, Freight transport systems, Licensing and certification of railway transport	**Goal:** Training, regulation of public relations between carriers, participants in the transportation process, government agencies, passengers, senders, recipients, shippers, consignees, other individuals and legal entities in the implementation of transportation of passengers, baggage, cargo, Luggage and mail by rail. **Content:** the Role of studying the legislation of railway transport is to improve the legal culture of future professionals by improving the quality of teaching the subject, bringing to each student the high principles of our laws. **Expected result:** **Know:** to Orient and analytically perceive the phenomena of legal validity to use legal knowledge in practice;to analyze, to think independently, to have a certain methodological basis for mastering the subject to understand the essence of the developing legal situation to expand the horizons independently, to develop the abilities of legal activity. **Be able to:** work with texts of normative legal acts; solution of arising situations from the position of law;work on yourself, for the development of an active life position.

						Own skills: knowledge of the law, independently expand horizons, develop the ability to law enforcement.
2	Technology and mechanization of cargo handling works	3	5	Integrated transport system	Means of transport, Safety of transport processes and equipment, Freight transportation	**Goal:** to Acquire knowledge of modern and advanced technological processes of processing of various cargoes in warehouses, systems of loading and unloading machines and equipment, principles of automation of control of machines and transport and warehouse complex. **Content:** The main objectives of the discipline "Technology and mechanization of loading and unloading"-the study of modern loading and unloading operations in transport. **Expected result:** **Know:** characteristics and organization of loading and unloading operations and warehousing operations and their importance in the transportation process measures to accelerate scientific and technological progress, cardinal increase of labor productivity on the basis of a wide and accelerated introduction into practice of science, technology and advanced experience. **Be able to:** organize highly efficient production of loading and unloading operations and warehouse operations on the basis of the use of modern systems of machines, equipment, devices, computer equipment, allowing to comprehensively mechanize and automate 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 develop a highly efficient production of loading and unloading operations and warehouse operations; to make the technical and economic task for design and creation of systems of new loading and unloading machines, to have skills of variant design of mechanized complexes of engineering constructions and warehouses, and also their reconstruction. **Own skills:** to organize highly effective production of PRR and warehouse operations on the basis of application of modern systems of cars, the equipment, devices, computer equipment.
2	The mechanization of loading and unloading of railway transport	3	5	Transport network	Traction and rolling stock, Maintenance and Traffic Safety, Freight transport systems	**Goal:** Mastering the knowledge of modern and advanced technological processes of various cargo in the warehouses, loading and unloading of machines and equipment, principles of machine control and automation of transport and warehouse complex. **Contents:** The main objectives of the

						discipline «Technology and mechanization of loading and unloading" Studying of modern loading and unloading transport. The study of modern loading and unloading machinery, equipment, pneumatic, hydraulic podvesnogo transport, theory of their calculation, definitions of key indicators for the choice of types of technologies in the design of complex mechanization and automation of loading and unloading and storage operations. **Expected result**: **Know:** characteristics and organization of loading and unloading operations on the railway transport and warehouse operations and their importance in the transportation process; measures to accelerate scientific and technological progress, a radical increase in productivity on the basis of a broad and accelerated introduction into practice of science, technology and best practices, the Student must be well aware of modern loading and unloading machines **To be able to:** know how to organize a high-performance production THC and warehouse operations through the application of modern systems of machines, equipment, instruments, computer tech-ki. **Own skills:** has the skills of drawing up the creation of new systems for loading and unloading machines.
3	Technology and mechanization of cargo handling works	3	5	Integrated transport system	Means of transport, Safety of transport processes and equipment, Freight transportation	**Goal:** to Acquire knowledge of modern and advanced technological processes of processing of various cargoes in warehouses, systems of loading and unloading machines and equipment, principles of automation of control of machines and transport and warehouse complex. **Content:** The main objectives of the discipline "Technology and mechanization of loading and unloading"-the study of modern loading and unloading operations in transport. **Expected result:** **Know:** characteristics and organization of loading and unloading operations and warehousing operations and their importance in the transportation process measures to accelerate scientific and technological progress, cardinal increase of labor productivity on the basis of a wide and accelerated introduction into practice of science, technology and advanced experience. **Be able to:** organize highly efficient production of loading and unloading operations and warehouse operations on the basis of the use of modern systems of machines, equipment, devices, computer

						equipment, allowing to comprehensively mechanize and automate 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 develop a highly efficient production of loading and unloading operations and warehouse operations; to make the technical and economic task for design and creation of systems of new loading and unloading machines, to have skills of variant design of mechanized complexes of engineering constructions and warehouses, and also their reconstruction. **Own skills:** to organize highly effective production of PRR and warehouse operations on the basis of application of modern systems of cars, the equipment, devices, computer equipment.
3	The mechanization of loading and unloading of railway transport	2(E)	3(E)	Transport network	Traction and rolling stock, Maintenance and Traffic Safety, Freight transport systems	**Goal:**to the Elements providing safety, the main directions of ensuring safety of vehicles, settlement and settlement and experimental methods of determination of the main indicators of safety of designs in the conditions of operation of vehicles. **Contents:** The place of safety of vehicles in the socio-economic structure of the state. The active safety of the car. Passive car safety: internal and external. **Expected result:** **Know:** the state of operation of vehicles in Kazakhstan and abroad, their development, performance, indicators, methods of evaluation and ways to improve them. **To be able to:**competently approach the analysis of efficiency of use of vehicles, to master new designs of vehicles. **Own skills:**competently approach to the analysis of the effectiveness of the use of vehicles.
4	Means of transport	3	5	Interaction of transport modes, Technology and mechanization of cargo handling works	Transport logistics, Bases of technical operation of vehicles, Safety of transport processes and equipment	**Goal:** the Discipline of Traction and rolling stock aims to form students ' General ideas about the rolling stock of Railways, the organization of their operational work on the Railways, maintenance and repair. **Contents:** to Teach students the knowledge of rolling stock structures, methods and means of their operation with traffic safety, determination of technical and economic indicators to improve the efficiency of their work, the acquisition of skills of independent work with scientific and technical literature. **Expected result:** **Know:** the principles of operation and the General structure of locomotives, cars and their main units operational

						factors affecting the efficiency of the rolling stock, its reliability and performance. **Be able to:** perform traction calculations and determine the technical and economic performance of locomotives effectively use locomotives and wagons. **Own skills:** on the principles of operation of diesel and traction electric machines on repair systems of locomotives and cars on the basics of interaction of rolling stock and the way traffic safety.
4	Traction and rolling stock	3	5	Interaction of transport modes, The mechanization of loading and unloading of railway transport	Logistics, Principles and norms of design of transport complexes, Maintenance and Traffic Safety	**Goal:** Training students to obtain knowledge about licensing, which is the legal regime of the beginning and termination of certain activities established by the state and the certification processes carried out to assess the conformity of services of transport companies. **Content:** the Essence and content of certification basic concepts and terms the essence of mandatory and voluntary certification principles rules and procedure of product certification systems of mandatory certification voluntary certification system. The practice of certification in Kazakhstan. **Expected result:** **Know:** the basic concepts and definitions used in the Law "on licensing" and "on certification" in the Republic of Kazakhstan, as well as the terms directly related to them in the Laws "on standardization", "on ensuring the unity of measurements", etc.; functions and systems of organization of works on licensing and certification, the legal basis and other legal acts of licensing and certification, the essence and content of licensing and certification abroad the basic principles related to export and import activities of enterprises and organizations in market conditions. **Be able to:** fill in the documentation for the issuance of licenses, build and analyze situational tasks, determine the scheme of compacted loading (optimal placement of cargo spaces) wagons graphoanalytical method. **Own skills:** filling out the necessary documentation.
5	Organization of production and enterprise management	3	5	Transport legislation	Automated control systems (transport)	**Goal:** the purpose of teaching the discipline "Licensing and certification in railway transport" is to form an understanding of the system of certification and licensing, methods of state regulation and control, familiarization with the objects of certification and licensing in transport, with the regulatory, technical, legislative framework, with the existing systems of

						certification of services (works) in railway transport. **Contents:** General information on railway transport licensing federal service for supervision of transport. Types of activities subject to licensing in the field of railway transport the procedure for obtaining a license the renewal of the document confirming presence of licenses dealing with controversial responsibilities of a licensee. **Expected result:** **Know:** the basic principles of quality control of the service process, the parameters of technological processes, resources used. **Be able to:** plan quality control of the service process. **Own skills:** a method of accounting for changes in the parameters of technological processes and resources used.
5	Basis of entrepreneurship	3	5	Transparent right	Automated system of train control	**Goal:** Training students to gain knowledge about the production and management of the enterprise, which is the legal regime of the beginning and termination of certain activities **Contents:** basic concepts and terms. Principles, rules and procedure organization of production and management of the enterprise. **Expected result:** **Know:** the basics of manifestations of the organization of the production process, labor rationing, scientific rationing and planning of the need for equipment,materials, labor costs; calculation and evaluation of labor productivity,labor intensity, cost; preparation of various variants of the production process in order to identify the most profitable. **Be able to:** economically justify; to solve issues related to the organization of the production process; to develop norms of labor costs; to determine the volume and quality indicators of the enterprise, the need for a contingent of workers, wages, labor productivity, cost of work, profit,profitability, operating costs and costs. **Own skills:** organization of the production process.
6	Licensing and Certification Basics	2	3	Transport legislation	Design diploma	**Goal:** acquisition of skills in the organization and planning of the enterprise with the use of modern methods affecting the transportation process. **Content:** the content of the discipline covers a range of issues related to the organization of entrepreneurial activity in modern economic conditions.

						Expected result: **Know:** the value, content and effectiveness of the introduction of new technology, organization and planning of activities. Methodology of capital investments and annual operating costs. **Be able to:** economically justify; to solve issues related to the organization of the production process; to develop norms of labor costs; to determine the volume and quality indicators of the enterprise, the need for a contingent of workers, wages, labor productivity, cost of work, profit,profitability, operating costs and costs. **Own skills**: knowledge of the basics of the production process organization
6	Licensing and certification of railway transport	2	3	Legislation of Railway Transport	Design diploma	**Goal:** to Study the principles and methods of evaluation of roads from the point of view of traffic safety and familiarization with the main measures to improve road conditions in the design and operation of roads. **Contents:** Transport and operational characteristics of roads patterns of movement of vehicles in different road conditions the impact of traffic conditions and geometric elements of roads on traffic safety. **Expected result:** **Know:** safety of transport processes and equipment, operational condition of roads. **Be able to**: apply the theoretical knowledge in practice. **Own skills:** safety in transport.
7	Kazakhstan's transport network	3	5	The basic theory of vehicles, Organization and traffic safety	Safety of transport processes and equipment	**Goal:** to Acquaint future specialists with the basics and methods of the theory of transport processes and systems; study and calculation of Queuing system parameters; construction and optimization of network planning. **Contents:** Definition, concept and objectives of the theory of transport systems. Features of transportation production. Concept and classification of transport systems. **Expected result:** **Know:** the essence of the theory of transport systems, familiarity with the methods of optimization of transport systems. **Be able to:** form ideas about the main characteristics of the transport hub and the processes occurring in it, the study of Queuing systems. **Own skills:** the necessary information for the optimization of transportation systems.
7	The railway network in Kazakhstan	3	5	Bases of transport system, Organization	Maintenance and Traffic Safety	**Goal:** to Study the current state and prospects of development of the railway system of the Republic of Kazakhstan. **Contents:** the Key importance of

				of traffic		Railways for the national economy is well known. A significant share of the country's gross domestic product and tax revenues is generated annually by rail transport. **Expected result:** **Know:** the essence of the theory of the railway network of Kazakhstan, familiarity with the methods of optimization of railway transport systems. **Be able to:** form ideas about the main characteristics of the transport railway junction and the processes occurring in it, the study of Queuing systems. **Own skills:** the necessary information for the optimization of railway transport
8	Safety of transport processes and equipment	3	5	Technology and mechanization of cargo handling works, Means of transport, Kazakhstan's transport network	Design diploma	**Goal:** To introduce the future specialists with the principles and methods of the theory of transport processes and systems; forming the students the basics of transportion; study and calculation of the queuing system parameters; methodological bases of construction and optimization of network planning. **Contents**: Definition of the concept and objectives of transpor theorym systems. Features of transport products. Definition and classification of transportnyh systems. Classification systems on a vehicle. Indicators of the functioning of tran from-Tailor system. The concept of transport as a host system. Functions transport orgations subcontractors in knots. **Expected result**: **Know:** the essence of the theory of transport systems, familiarity with methods of optimization of transport systems, with the features of the transport process assystem with a discrete state, the study of the classification and characteristics of functioning IAOD transport systems, the basic characteristic of tran Sportna node and proceeding in these processes. **be able to:** generate ideas about the main characteristics of the vehicl. **Own skills:** site and its processes, the study of queuing systems.
8	Maintenance and Traffic Safety	3	5	The mechanization of loading and unloading of railway transport, Traction and rolling stock, The railway network in Kazakhstan	Design diploma	**Goal:** The purpose of the development of the discipline "Traffic" to teach students to understand the principles of the organization of traffic in order to ensure safe movement of vehicles. **Contents:** Basic characteristics of traffic general concepts of motorization development, traffic and the problem of ensuring its safety and effectiveness transport stream and its characteristics; Pedestrians and its parameters research methods of traffic characteristics traffic accidents (RTA) - a concept accounting

						and analysis; the role of the road conditions in the event of an accident the impact of the driving conditions and the elements of the road traffic safety methods for identifying hazardous road sections; especially the organization of one-way traffic, roundabouts at intersections **Expected result**: **Know:** know the traffic patterns and methods of its research. **To be able to:** organize a survey of road conditions, the intensity and the flow of vehicles and pedestrians evaluate modes and safety of traffic on a particular section of the site. **Own Skills:** have skills to apply practical measures for security and traffic management.
9	Traffic Management	3	5	Organization and traffic safety	Design diploma	**Goal:** The purpose of the development of the discipline "Traffic" to teach students to understand the principles of the organization of traffic in order to ensure safe movement of vehicles. **Contents:** Basic characteristics of traffic; general concepts of motorization development, traffic and the problem of ensuring its safety and effectiveness; transport stream and its characteristics; Pedestrians and its parameters; research methods of traffic characteristics; traffic accidents (RTA) - a concept accounting and analysis; the role of the road conditions in the event of an accident; the impact of the driving conditions and the elements of the road traffic safety; methods for identifying hazardous road sections; especially the organization of one-way traffic, roundabouts at intersections; **Expected result**: **know:** know the traffic patterns and methods of its research. **To be able to:** organize a survey of road conditions, the intensity and the flow of vehicles and pedestrians; evaluate modes and safety of traffic on a particular section of the site; **Own Skills:** have skills to apply practical measures for security and traffic management.
9	Organization and management of transportation processes	3	5	Organization of traffic	Design diploma	**Goal:** The purpose of the development of the discipline "Traffic" to teach students to understand the principles of the organization of traffic in order to ensure safe movement of vehicles. **Contents:** Basic characteristics of traffic; general concepts of motorization development, traffic and the problem of ensuring its safety and effectiveness; transport stream and its characteristics; Pedestrians and its parameters; research methods of traffic characteristics; traffic

						accidents (RTA) - a concept accounting and analysis; the role of the road conditions in the event of an accident; the impact of the driving conditions and the elements of the road traffic safety; methods for identifying hazardous road sections; especially the organization of one-way traffic, roundabouts at intersections; **Expected result**: **know:** know the traffic patterns and methods of its research. **To be able to:** organize a survey of road conditions, the intensity and the flow of vehicles and pedestrians; evaluate modes and safety of traffic on a particular section of the site; **Own Skills:** have skills to apply practical measures for security and traffic management.
10	Traffic Management	2(E)	3(E)	Organization and traffic safety	Design diploma	**Goal:** The purpose of the development of the discipline "Traffic" to teach students to understand the principles of the organization of traffic in order to ensure safe movement of vehicles. **Contents:** Basic characteristics of traffic; general concepts of motorization development, traffic and the problem of ensuring its safety and effectiveness; transport stream and its characteristics; Pedestrians and its parameters; research methods of traffic characteristics; traffic accidents (RTA) - a concept accounting and analysis; the role of the road conditions in the event of an accident; the impact of the driving conditions and the elements of the road traffic safety; methods for identifying hazardous road sections; especially the organization of one-way traffic, roundabouts at intersections; **Expected result**: **know:** know the traffic patterns and methods of its research. **To be able to:** organize a survey of road conditions, the intensity and the flow of vehicles and pedestrians; evaluate modes and safety of traffic on a particular section of the site; **Own Skills:** have skills to apply practical measures for security and traffic management.
10	Organization and management of transportation processes	2(E)	3(E)	Organization of traffic	Design diploma	**Goal:** The purpose of the development of the discipline "Traffic" to teach students to understand the principles of the organization of traffic in order to ensure safe movement of vehicles. **Contents:** Basic characteristics of traffic; general concepts of motorization development, traffic and the problem of ensuring its safety and effectiveness; transport stream and its characteristics; Pedestrians and its parameters; research

						methods of traffic characteristics; traffic accidents (RTA) - a concept accounting and analysis; the role of the road conditions in the event of an accident; the impact of the driving conditions and the elements of the road traffic safety; methods for identifying hazardous road sections; especially the organization of one-way traffic, roundabouts at intersections; **Expected result**: **know:** know the traffic patterns and methods of its research. **To be able to:** organize a survey of road conditions, the intensity and the flow of vehicles and pedestrians; evaluate modes and safety of traffic on a particular section of the site; **Own Skills:** have skills to apply practical measures for security and traffic management.
11	Automatedcontrolsystems (transport)	3	5	Electrical and bases electrical engineers, Information Technology, Organization of production and enterprise management	Design diploma	**Goal:** to Prepare graduates to work in the conditions of functioning of the automated control system is based on previously studied disciplines **Contents:** Automated systems in transport.Expert control system for the transport and regulation of transport processes. Work in the conditions of ACS on transport and the work of other industry subsystems. **Expected result:** **Know:** purpose, structure and basis of functioning of automated control systems in transport **Be able to:** work with the basic theoretical provisions of the course systems and methods of operation of automation devices, telemechanics and communication. **Own skills:**to apply the obtained theoretical knowledge in the workplace
11	Automated system of train control	3	5	Electrica machine, Information Sistems, Basis of entrepreneurship	Design diploma	**Goal:** to Prepare graduates to work in the conditions of functioning of the automated control system is based on previously studied disciplines **Contents:** Automated systems in transport.Expert control system for the transport and regulation of transport processes. Work in the conditions of ACS on transport and the work of other industry subsystems. **Expected result:** **Know:** purpose, structure and basis of functioning of automated control systems in transport **Be able to:** work with the basic theoretical provisions of the course systems and methods of operation of automation devices, telemechanics and communication. **Own skills:**to apply the obtained theoretical knowledge in the workplace

12	Automatedcontrolsystems (transport)	2 (E)	3(E)	Electrical and bases electrical engineers, Information Technology, Organization of production and enterprise management	Design diploma	**Goal:** to Prepare graduates to work in the conditions of functioning of the automated control system is based on previously studied disciplines **Contents:** Automated systems in transport.Expert control system for the transport and regulation of transport processes. Work in the conditions of ACS on transport and the work of other industry subsystems. **Expected result:** **Know:** purpose, structure and basis of functioning of automated control systems in transport **Be able to:** work with the basic theoretical provisions of the course systems and methods of operation of automation devices, telemechanics and communication. **Own skills:**to apply the obtained theoretical knowledge in the workplace
12	Automated system of train control	3	5	Electrica machine, Information Sistems, Basis of entrepreneurship	Design diploma	**Goal:** to Give theoretical knowledge about the basic concepts and principles of automation devices, telemechanics and types of communication in railway transport **Contents:** basic concepts, goals and principles of automatic devices. The operational framework of railway automatics.. Track circuit. Varieties of relays and their Executive part. **Expected result:** **Know:** purpose, structure and bases of functioning of the automated control systems on railway transport; the maintenance of the tasks solved in the systems connected with management of freight and passenger transport; the General order of preparation of new tasks at expansion or improvement of functionality of the automated control systems on railway transport; organization of information support in the automated control systems on railway transport, management on railway transport in General and in more detail of the systems connected with management of freight and passenger transport; experience of creation and operation of ACS on foreign Railways **Be able to:** work on automated workplaces (AWP) of the main mass professions (input and output of information, dialogue mode of work on personal computers); develop algorithms of new tasks of subsystems connected with management of cargo and passenger transport; develop the unified forms of input and output documents, arrays of normative reference information to the tasks prepared for inclusion in the automated control systems on railway transport; to prepare the initial data

						about the object to enter in the system. **Own skills:** filling out documentation using automated control systems in railway transport
13	Freighttransportation	3	5	Transport legislation, Technology and mechanization of cargo handling works, Transport logistics, Metrology, standardization and quality management	Design diploma	**Goal:** to Study the basics of freight transport, the study of modern methods of delivery **Contents:** the Concept of transport and freight systems. Basic concepts of transport and freight systems.Transport and cargo systems for packaged goods. Transport and cargo systems for containers. **Expected result:** **Know:** the procedure for drawing up transportation plans and accounting cards for the implementation of the transportation plan, the rules of acceptance for transportation and delivery of goods to recipients, the procedure for filling in transportation documents, the conditions of transportation of goods, the procedure for the operation of access roads, the procedure for drawing up acts, presentation and consideration of claims. **Be able to:** draw up applications for transportation accounting and reporting documents, choose the conditions of transportation of goods, determine the timing of loading, unloading and delivery of goods,draw up acts and claims, on measures aimed at improving the conditions of transportation and interaction between different modes of transport, fulfillment of the transportation process, on the norms of accuracy of weighing of goods and the natural loss of mass of goods during transportation, on the current state,directions of development and application of the most advanced means of transportation,automation of registration of transportation. **own skills:** the filling of transportation documents.
13	Freight transport systems	3	5	Transparent right, The mechanization of loading and unloading of railway transport, Logistics	Design diploma	**Goal:** to Study the basics of the organization of the rules of transportation of goods, the study of modern loading and unloading operations on rail transport. **Contents:** Rules of transportation of goods in transport concretize and Supplement the provisions of the Charter of at. The main points of the Rules can be used in the preparation of contracts with cargo owners, as they are based on extensive practical experience of transportation. Sections of the Rules contain the main responsibilities and rights of the participants in the transport process (carrier, shipper and consignee). **Expected result:**

						Know:the rules of drawing up transport plans and vypolneniya transportation, admission regulations for the carriage and delivery of goods to recipients, the order of filling of transportation documents, the conditions of carriage of goods, the order ekspluatatsionnykh ways, the procedure of drafting of acts, the presentation and review of claims. **To be able to:** on transportation tariffing to make applications for transportation accounting and reporting documents, to choose conditions of transportation of goods, to determine the terms of loading, unloading and delivery of goods,to draw up acts and claims, on measures aimed at improving the conditions of transportation and interaction between different modes of transport, the fulfillment of the transportation process, on the norms of accuracy of weighing goods and the natural loss of mass of goods during transportation, on the current state,directions of development and application of the most advanced means of transportation,automation of registration of transportation. **own skills**: the filling of transportation documents.

The list of elective courses for an educational trajectory 5B090100 -" Organization of transport, traffic and transport operation"Educational trajectory:Organization of transportation in road transport/Organization of transport on the railways

Mode of study: Full-time
Training period: 4 years

Namediscipline	Disciplinecode	Numberofcredits		Semester
		RK	ECTS	
Generalcompulsorymodules				
Componenton a chois1				
Ecology with the basics of life safety	EWBS 1101	2	3	1
Psychology	Psy 1101	2	3	1
Componenton a chois2				
Kazakh model of interethnic tolerance and social	KMITS 2102	2	3	3
Basesofanticorruptionculture	OAC 2102	2	3	3
Componenton a chois3				
Religious	Rel 3104	3	5	5
Basicdisciplines				
Componenton a chois1				
Chemistry	Chem1201	2	3	1
Inorganic chemistry	ICh 1201	2	3	1
Componenton a chois2				
Introductiontothespecialty	IS 1202	2	3	1
Communitiautotransport	CAT 1 1202	2	3	1
Componenton a chois3				
Descriptive geometry and engineering graphicsa	DGEG 1203	4	3	2,3
Computermodelling	CM 1203			2,3
Componenton a chois4				
The engineering geodesy	IG 1204	2	3	2
Cartography	Car 1204	2	3	2
Componenton a chois5				
Metrology, standardization and quality management	MSGM 1205	3	5	2
Standardization, sertification and tehnical measurements	SSTM 1205	3	5	2
Componenton a chois6				
Theoreticalmechanics	TM 2206	3	5	3
Designingofmachineparts	DMP 2206	3	5	3
Componenton a chois7				
Integratedtransportsystem	ITS 2207	3	5	3
Transportnetwork	TN 2207	3	5	3
Componenton a chois8				
Appliedmechanics	AM 2208	3	5	4
Mechanicaltransportworks	MTW 2208	3	5	4
Componenton a chois9				
Electrical and bases electrical engineers	EBE 2209	3	5	4
Electricamachine	EM 2209	3	5	4
Componenton a chois10				
The basic theory of vehicles	BTV 3210	3	5	5
Basesoftransportsystem	BTS 3210	3	5	5
Componenton a chois11				
Organizationandtrafficsafety	OTS 3211	3	5	5
Organizationoftraffic	OT 3211	3	5	5
Componenton a chois12				
Transportlogistics	TL 3212	3	5	6
Logistics	Log 3212	3	5	6
Componenton a chois13				

RailwayStationsandJunctions	RSJ 3213	3	5	6
Pathandstationarrangment	PSA 3213	3	5	6
Componenton a chois14				
InformationTechnology	IT 3214	3	5	6
InformationSistems	IS 3214	3	5	6
Componenton a chois15				
OccupationalSafetyandHealth	OSH 3215	3	5	6
Laborsafetyeguipmentsafety	LSES 3215	3	5	6
Componenton a chois16				
Passengertransportation	PT 4216	3	5	7
Internationaltransportation	IT4216	3	5	7
Componenton a chois17				
Bases of technical operation of vehicles	BTOV 4217	3	5	7
Principles and norms of design of transport complexes	PNDTS 4224	3	5	7
Profiling discipline				
Componenton a chois1				
Transport legislation	TL 2301	2	3	4
Transparent right	TR 2301	2	3	4
Componenton a chois2				
Technology and mechanization of cargo handling works	TMCHW 2302	3	5	4
The mechanization of loading and unloading of railway transport	MLURT 2302	3	5	4
Componenton a chois3				
Means of transport	MT 3303	2	3	5
Tractionandrollingstock	TRS 3303	2	3	5
Componenton a chois4				
Licensing and Certification Basics	LCB2304	2	3	5
Licensing and certification of railway transport	LCRT2304	2	3	5
Componenton a chois5				
Organization of production and enterprise management	OPEM 3305	3	5	6
Basis of entreprenuership	BE 3305	3	5	6
Componenton a chois6				
Safety of transport processes and equipment	STPE 4306	3	5	6
MaintenanceandTrafficSafety	MTS 4306	3	5	6
Componenton a chois7				
Kazakhstan'stransportnetwork	KTN 3307	3	5	7
The railway network in Kazakhstan	RNK 3307	3	5	7
Componenton a chois8				
Traffic Management	TM 4308	3	5	7
Organization and management of transportation processes	OMTP 4308	3	5	7
Componenton a chois9				
Automated control systems (transport)	ACS 4309	3	5	7
Automated system of train control	ASTC 4309	3	5	7
Componenton a chois10				
Freight transportation	FT 4310	3	5	7
Freight transport systems	FTS 4310	3	5	7

The list of elective courses for an educational trajectory 5B090100 -" Organization of transport, traffic and transport operation"Educational trajectory:Organization of transportation in road transport/Organization of transport on the railways

Mode of study:Distance, secondary professional education
Trainingperiod: 3 years

Namediscipline	Disciplinecode	Numberofcredits		Semester
		RK	ECTS	
Basicdisciplines				
Componenton a chois1				
Descriptive geometry and engineering graphicsa	DGEG 1201	2	3	2
Computermodelling	CM 121	2	3	2
Componenton a chois2				
Theengineeringgeodesy	IG 1202	2	3	2
Cartography	Car 1202	2	3	2
Componenton a chois3				
Metrology, standardization and quality management	MSGM 1203	3	5	3
Standardization, sertification and tehnical measurements	SSTM 1203	3	5	3
Componenton a chois4				
Theoreticalmechanics	TM 2204	3	5	3
Designingofmachineparts	DMP 2204	3	5	3
Componenton a chois5				
Integratedtransportsystem	ITS 2205	3	5	4
Transport network	TN 2205	3	5	4
Componenton a chois6				
Appliedmechanics	AM 2206	3	5	4
Mechanicaltransportworks	MTW 2206	3	5	4
Componenton a chois7				
Electrical and bases electrical engineers	EBE 2207	3	5	5
Electricamachine	EM 2207	3	5	5
Componenton a chois8				
The basic theory of vehicles	BTV 3208	3	5	5
Basesoftransportsystem	BTS 3208	3	5	5
Componenton a chois9				
Organizationandtrafficsafety	OTS 3209	3	5	6
Organizationoftraffic	OT 3209	3	5	6
Componenton a chois10				
Transportlogistics	TL 3210	3	5	7
Logistics	Log 3210	3	5	7
Componenton a chois11				
RailwayStationsandJunctions	RSJ 3211	3	5	7
Pathandstationarrangment	PSA 3211	3	5	7
Componenton a chois12				
InformationTechnology	IT 3212	3	5	8
InformationSistems	IS 3212	3	5	8
Componenton a chois13				
OccupationalSafetyandHealth	OSH 3213	3	5	8
Laborsafetyeguipmentsafety	LSES 3213	3	5	8
Componenton a chois14				
Passengertransportation	PT 4214	3	5	9
Internationaltransportation	IP 4214	3	5	9
Componenton a chois15				
Bases of technical operation of vehicles	BTOV 4215	3	5	9
Principles and norms of design of transport complexes	PNDTS 4215	3	5	9
Component on a chois				
Componenton a chois1				
Transport legislation	TL 2301	2	3	5

Transparent right	TR 2301	2	3	5
Componenton a chois2				
Technology and mechanization of cargo handling works	TMCHW 2302	3	5	6
The mechanization of loading and unloading of railway transport	MLURT 2302	3	5	6
Componenton a chois3				
Means of transport	MT 3303	2	3	6
Tractionandrollingstock	TRS 3303	2	3	6
Componenton a chois4				
Organization of production and enterprise management	OPEM 3304	2	3	5
Basis of entreprenuership	BE 3304	2	3	5
Componenton a chois5				
Licensing and Certification Basics	LCB2305	3	5	7
Licensing and certification of railway transport	LCRT2305	3	5	7
Componenton a chois6				
Kazakhstan'stransportnetwork	KTN 3306	3	5	7
The railway network in Kazakhstan	RNK 3306	3	5	7
Componenton a chois7				
Safety of transport processes and equipment	STPE 4307	3	5	8
MaintenanceandTrafficSafety	MTS 4307	3	5	8
Componenton a chois8				
TrafficManagement	TM 4308	3	5	8
Organization and management of transportation processes	OMTP 4308	3	5	8
Componenton a chois9				
Automatedcontrolsystems (transport)	ACS 4309	3	5	9
Automated system of train control	ASTC 4309	3	5	9
Componenton a chois10				
Freight transportation	FT 4310	3	5	9
Freight transport systems	FTS 4310	3	5	9

The list of elective courses for an educational trajectory 5B090100 -" Organization of transport, traffic and transport operation"Educational trajectory: Organization of transportation in road transport/Organization of transport on the railways

Mode of study:Distance, second degree
Trainingperiod: 2 years

Namediscipline	Disciplinecode	Numberofcredits		Semester
		RK	ECTS	
Basicdisciplines				
Componenton a chois1				
Chemistry	Chem1201	2	3	1
Inorganic chemistry	ICh 1201	2	3	1
Componenton a chois2				
Introductiontothespecialty	IS 1202	2	3	1
Communitiautotransport	CAT 1 1202	2	3	1
Componenton a chois3				
Descriptive geometry and engineering graphicsa	DGEG 1203	4	3	2
Computermodelling	CM 1203	4	3	2
Componenton a chois4				
Theengineeringgeodesy	IG 1204	2	3	2
Cartography	Car 1204	2	3	2
Componenton a chois5				
Theoreticalmechanics	TM 2205	3	5	2
Designingofmachineparts	DMP 2205	3	5	2
Componenton a chois6				
Integratedtransportsystem	ITS 2206	3	5	3
Transportnetwork	TN 2206	3	5	3
Componenton a chois7				
Electrical and bases electrical engineers	EBE 2207	3	5	4
Electricamachine	EM 2207	3	5	4
Componenton a chois 8				
Transportlogistics	TL 3208	3	5	4
Logistics	Log 3208	3	5	4
Componenton a chois9				
RailwayStationsandJunctions	RSJ 3209	3	5	5
Pathandstationarrangment	PSA 3209	3	5	5
Componenton a chois10				
OccupationalSafetyandHealth	OSH 3210	2	3	5
Laborsafetyequipmentsafety	LSES 3210	2	3	5
Componenton a chois11				
Passengertransportation	PT 4211	3	5	7
Internationaltransportation	IT4211	3	5	7
Profiling discipline				
Componenton a chois1				
Means of transport	MT 3301	2	3	3
Tractionandrollingstock	TRS 3301	2	3	3
Componenton a chois2				
Organization of production and enterprise management	OPEM 3302	2	3	5
Basis of entreprenuership	BE 3302	2	3	5
Componenton a chois3				
Kazakhstan'stransportnetwork	KTN 3303	3	5	5
The railway network in Kazakhstan	RNK 3303	3	5	5
Componenton a chois4				

TrafficManagement	TM 4304	3	5	6
Organization and management of transportation processes	OMTP 4304	3	5	6
Componenton a chois5				
Automatedcontrolsystems (transport)	ACS 4305	3	5	6
Automated system of train control	ASTC 4305	3	5	6
Componenton a chois6				
Freighttransportation	FT 4306	3	5	6
Freight transport systems	FTS 4306	3	5	6