Non-commercial joint-stock company
«Kazakh National Agrarian Research University»

AGREED
Direktor LLP E.S.T «Gonstrution»
_____ A.Tortbaev
«01» 03 2024

APPROVED
Chairman of the Board – Rector
_____ A.Kurishbaev
«01» 03 2024

AGREED
Director LLP «NOMADCAR»
(DC «Changan»)
_____ Sh.Orynbek
«11» 03 2024

EDUCATIONAL PROGRAM

«6B07104 – Transport, transport technics and technology»

Awarded degree: Bachelor of Engineering and Technology under the educational program «6B07104 – Transport, transport technics and technology»

ALMATY 2024

Approved at the meeting of the Department «Machine use» named after I.V. Sakharov
Protocol № 6 «15» 01 2024
Head of the department _____ M.Zhetpeisov

Considered at meetings Academic committee of the Faculty of «Engineering - technical»
Protocol № 6 « 26 » 01 2024
Chairman of the AC of the faculty _____ U. Ibishev

Reviewed by the Educational Methodological Council of the University and recommended to the Academic Council
Protocol № 4 « 01 » 02 2024

Chairman of the EMS of the University _____ A. Abdyrov

The educational program was approved at the meeting of the Academic Council of KazNARU
Protocol № 9 , « 01 » 05 2024

Developers:

Dean of the Faculty	L. Aldibaeva
Head of department	M. Zhetpeisov
Teacher	B.Kurbanaliyev
4th year student	A.Jundybayev
Graduate of 2023	E.Orazmoldayev

Employers:

Employer: Direktor LLP E.S.T «Gonstrution» A.Tortbaev

Director LLP «NOMADCAR» Sh.Orynbek
(DC «Changan»)

Agreed:

Head of the Educational Program
Design Office Zh. Kussainova

Application area

It is intended for realization of preparation of bachelors under the educational program «6B07104 –Transport, transport facility and technology» in NCJSC "Kazakh National Agrarian Research University".

Regulations

«On Education» The Law of the Republic of Kazakhstan dated 27 July, 2007 No. 319-III;

Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 №2;

Classifier of training programs for personnel with higher and post-graduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan of October 13, 2018 No. 569;

Standard Rules for the activities of educational organizations implementing educational programs of higher and (or) postgraduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan of October 30, 2018 No. 595;

Rules of the organization of the educational process on credit technology of training. Order of the Minister of Education and Science of the Republic of Kazakhstan dated 12.10.2018 No. 563;

Algorithm of inclusion and exclusion of educational programs in the Register of educational programs of higher and postgraduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan No. 665 dated December 4, 2018;

Order No. 106 of the Minister of Science and Higher Education of the Republic of Kazakhstan dated October 12, 2022. Rules for keeping the register of educational programs, implemented by the organizations of higher and (or) postgraduate education, as well as the grounds for inclusion in the register of educational programs and exclusion from it

Professional standard "Control over the technical condition of motor vehicles" Order No.136 of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" dated 01.09.2023.

Professional standard "Periodic technical inspection of motor vehicles" Appendix No.20 to the order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" dated 01.09.2023 No.136

Professional standard "Diagnostics, maintenance and repair of buses" Appendix No. 20 to the order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" dated 01.09.2023 No.136

Professional standard " Preparatory and final operations related to the operation of buses" Appendix No. 46 to the order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" dated 01.09.2023 No.136

Professional standard " Freight forwarding services in road transport" Appendix No. 46 to the order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" dated 01.09.2023 No.136

1. Passport of the educational program

Code and classification of the education field	6B07 Engineering, manufacturing and construction industries
Code and classification of training areas	6B071 – Engineering
Code and name of educational program	6B07104 – Transport, transport facility and technology
Type of educational program	Acting
The purpose of the educational program	Training with theoretical knowledge and practical skills in planning and organizing of work in road transport enterprises, as well as in research institutes for the development of road transport.
Level according to ISCED	6
Level according to NQF	6
Level according to PQF-professional qualification framework	6
The number of appendix to the licenses for the training direction	KZ42LAA00006720 on March 27, 2019 No. 009 with changes KZ89LAA00031870 on August 5, 2021
Accreditation of EP The name of the accreditation body The period of accreditation validity	Certificate №2022 KE 0531 KAZSEE 27.05.2022 -26.05.2027
Degree awarded	Bachelor of Engineering and Technology in the educational program «6B07104 –Transport, transport technics and technology»
Learning outcome	Table 2
List of qualifications and positions	- Head of Technical Control Department; - chief mechanical engineer; - mechanical engineer; - manager.
Field of professional activity	- engineering plants producing transport equipment and machinery; - enterprises and organizations engaged in the operation of transport equipment; - design, design and technological organizations; - machine repair enterprises; - branded and dealer centers of machine-engineering and repair plants; - marketing and forwarding services; - logistics systems, transport management services.
Scope and object of professional activity	- for activities in the field of material production; - methods and methods of human activity, - the solution of complex problems associated with the design and operation; - repair of transport technics.
Functions of professional activity	- work on the preparation of technical documentation and the established reporting on the approved forms; - conducting training and instruction in safety, labor and environmental protection; - monitoring compliance with the requirements for the preparation of documentation for the quality management of transport equipment.
Types of professional activity	**1. Estimated:** - organization of the work of the team of performers, consideration of different opinions and management

	decisions; - trade-off decisions taking into account various requirements (cost, quality, deadlines and safety) for different types of planning and determining the optimal solutions; - accounting for various types of costs in order to ensure the production of quality products. Production - management activities: - optimization of manufacturing techniques of transport technics and equipment; - quality control of technological processes, materials and finished products; - the choice and effective use of materials, equipment and other means for the implementation of production processes; **2. Constructive:** - defining the goals and objectives of the project, taking into account various factors when building the structure of their interrelations and identifying priority areas for solving problems; - development of design, technological, design and estimate documentation for the creation and repair of transport technics; - development and analysis of solutions to the problems of forecasting the consequences, planning and implementation of projects; - development of projects of machines and equipment taking into account technological, design, aesthetic, economic and other parameters; - the use of information technology in the selection of materials, transport technics and machinery. **3. Information technology:** - metrological verification of measuring the indicators of product quality; - carrying out activities for the standardization and certification of transport technics and machinery, their manufacturing and repair technology; - organization and management of services, enterprises associated with the operation and repair of transport technics.
Be competent	In the ability to develop and master new and modernize existing technological processes, to design designed parts and assemble machines to ensure the required quality of machines with their minimum cost and maximum performance of safe labor, organization and management of transport production; analysis of production efficiency, the development of measures to improve it, the implementation of scientific research to improve the efficiency of transport services, etc.

2. Learning results of Educational Programs

Codes	Learning results
LO1	Demonstrate knowledge and understanding in the field of natural science disciplines that contribute to the formation of a highly educated person with a broad outlook and a culture of thinking.
LO2	Apply knowledge of economic laws, labor and environmental protection standards, rules of moral development, culture of academic integrity at a professional level, formulate arguments and solve problems in the field under study.
LO3	Apply theoretical and practical knowledge to solve educational, practical and professional tasks in the field of transport, transport equipment and technology.
LO4	Distinguish details of transport equipment by type of transport and using knowledge of the device of automotive equipment.
LO5	Apply the training skills necessary to ensure the verification of the technical condition of vehicles in operation, manage the process of technical operation and repair of vehicles.
LO6	Apply knowledge and undestranding when choosing the most rational materials, shapes, sizes, degrees of accuracy and surface roughness, know the methods of scientific research and apply them in the field of transport, transport equipment and technology.
LO7	Apply therenical and practical knowledge, laws and theories of classical mathematics, physics, mechanics, as well as methods of conctructing images, skills in finding kinematic and dynamic parameters, apply knowledge of technological processes related to the diagnosis, maintenance, repair and technical control of motor vehicles with an understanding of the factors of information, financial and documentary flows.
LO8	Understand the importance of the principles of solving actual engineering problems in the field of transport, transport equipment and technology in modern conditions
LO9	To manage and ensure the efficiency of the production activities of the relevant structural divisions, to manage the company's activities in the field of providing freight forwarding services.
LO10	Demonstrate knowledge in the design of inventions, the development of projects and their implementation in production, aimed at reducing costs, increasing the productivity of technological processes of vehicles.
LO11	Know the methods of scientific research, academic writing and apply them in drawing up plans for the implementation of regulations, recommendations and instructions of supervisory authorities regarding the safety of transportation processes.
LO12	Apply knowledge of the devices and dynamics of automotive vehicles at a professional level, necessary for further independent professional development in the field of transport, transport equipment and technology.

3. The content of the educational program

No.	CC/UC/OC	Discipline Code	Name of the discipline, forming competencies	academic credits	Volume in hours							Distribution of credits by courses and semesters								The Department	Form of control
					academic hours	Classroom				Extracurricular		1 course		2 course		3 course		4 course			
						Lectures	Practical class	Laboratory class	Other (practice)	IWST	IWS	1	2	3	4	5	6	7	8		
	ЖБП/ООД/ GES		**Жалпы білім беретін пәндер циклі/ Цикл общеобразовательные дисциплины / General education subjects cycle**	**56**	**1680**	**90**	**465**			**420**	**705**	**17**	**25**	**12**	**2**						
	Гуманитарлық және тілдік модулі/ Гуманитарный и языковый/ Humanities and language			**30**	**900**	**30**	**240**			**180**	**450**	**15**	**10**	**5**							
1	CC	KT 1101/ IK1101/H K 1101	Қазақстан тарихы / История Казахстана/ History of Kazakhstan	5	150	15	30			30	75	5								29	State exam
2	CC	Fil 2102/ Fil 2102/ Phil 2102	Философия/ Философия/ Philosophy	5	150	15	30			30	75			5						9	exam
3	CC	ShT 1103/ IYa 1103/ FL 1103	Шетел тілі/ Иностранный язык/ Foreign Language	10	300		90			60	150	5	5							14	exam
4	CC	K(O)T 1104/ K(R)Ya 1104/ K(R)L 1104	Қазақ (Орыс) тілі/ Казахский (Русский) язык/ Kazakh (Russian) language	10	300		90			60	150	5	5							15	exam
		Кәсіби және коммуникативті модулі/ Профессионально-коммуникативный/ Professional and communicative		**10**	**300**	**30**	**60**			**60**	**150**	**5**		**5**							
5	CC	AKT 2105/ IKT 2105/ ICT 2105	Ақпараттық коммуникациялық технологиялар/ Информационно-коммуникационные технологии/ Information and Communication Technologies	5	150	15	30			30	75			5						9	exam

6	ОС	KSZhKM 1108/ PAK 1108/ LACC 1108	Құқық және сыбайлас жемқорлыққа қарсы мәдениет/ Право и антикоррупционная культура/Law and anti-corruption culture	5	150	15	30			30	75	5							3	exam
		Ekon 1108/ Ekon 1108/ Econ 1108	Экономика/Экономика/ Economy																	
		Ekol 1108/ Ekol 1108/ Ekol 1108	Экология/Экология/Ecology																	
		TAK 1108/ BZh 1108/ LS 1108	Тіршілік әрекетінің қауіпсіздігі/Безопасность жизнедеятельности/Life safety																	
		Kas/Pre/ Ent1108	Кәсіпкерлік/ Предпринимательство/ Entrepreneurship																	
		GZN/ ONI/ FSR 1108	Ғылыми зерттеулердің негіздері/ Основы научных исследований/ Fundamentals of Scientific Research																	
		Әлеуметтік-саясаттану білім және салауатты өмір салты модулі/ Социально-политических знаний и здоровый образ жизни/ Socio-political knowledge and a healthy lifestyle		**16**	**480**	**30**	**165**			**180**	**105**	**2**	**10**	**2**	**2**						
7	СС	ASBM (ASMP) 1106/ MSPZ (SPKP) 1106/ SPKM (SPKP) 1106	Әлеуметтік-саясаттану білім модулі (әлеуметтану, саясаттану, мәдениеттану, психология)/ Модуль социально-политических знаний (социология, политология, культурология, психология)/ Social and political knowledge module (Social Studies, Political Studies, Cultural Studies, Psychology)	8	240	30	45			60	105		8						29	exam
8	СС	DSh 1107 2107/ FK 1107 2107/ PT 1107 2107	Дене шынықтыру/ Физическая культура/ Physical Training	8	240		120			120		2	2	2	2				30	diff. credit
	БП/БД/CS		**Базалық пәндер циклы/ Цикл базовых дисциплин/ Core subjects cycle**	**114**	**3420**	**300**	**360**	**270**	**120**	**600**	**1770**	**9**	**12**	**20**	**23**	**25**	**18**		**6**		

	Модуль 1 Жол қозғалысын ұйымдастыру кезіндегі құжаттамалық қамтамасыздандыру/ Документационное обеспечение при организации дорожного движения/ Documentation support for traffic management			**15**	**450**	**45**	**75**	**15**		**90**	**225**	**5**	**5**			**5**					
9	UC	ZhKE2203 / PDD 2203/ TR 2203	Жол қозғалысының ережелері/ Правила дорожного движения/Traffic regulations	5	150	15	30			30	75		5							5	exam
10	UC	IKG 1202/ IKG 1202/ ECG1202	Инженерлік және компьютерлік графика/ Инженерная и компьютерная графика/ Engineering and computer grafics	5	150	15	15	15		30	75	5								7	exam
11	OC	KET 3215/ UAT 3215/ AAT 3215	Көліктегі есеп және талдау/Учет и анализ на транспорте/Accounting and analysis on transport	5	150	15	30			30	75					5				1	exam
		KS 3215/ ST 3215/ TS 3215	Көлік статистикасы/ Статистика транспорта/Transport statistics																		
	Модуль 2 Нақты ғылымдар/ Естественные науки/ Natural Sciences			**21**	**630**	**60**	**75**	**60**		**120**	**315**	**5**		**10**	**6**						
12	UC	ZhM 1201/ VM 1201/ HM 1201	Жоғарғы математика/ Высшая математика/Higher mathematics	5	150	15	30			30	75	5								9	exam
13	UC	Fiz 1204/ Fiz 1204/ Fiz 1204	Физика/Физика/Physics	5	150	15	15	15		30	75			5						9	exam
14	UC	TM 2207/ TM 2207/ TM 2207	Теориялық механика/Теоретическая механика/Theoretical mechanics	5	150	15	15	15		30	75			5						7	exam
15	UC	MKMT 2206/MTKM 2206/ MSTSM 2206	Материалтану және конструкциялық материалдар технологиясы/ Материаловедение и технология конструкционных материалов/ Materials Sciens and Technology of Structural Materials	6	180	15	15	30		30	90				6					7	exam
	Модуль 3 Автотракторлық техника және машина бөлшектері/ Автотракторная техника и детали машин/ Autotractor technics and machine parts			**10**	**300**	**30**	**30**	**30**		**60**	**150**			**5**			**5**				
16	UC	MB 3201/ DM	Машина бөлшектері/Детали машин/ Machine parts	5	150	15	15	15		30	75						5			7	exam

		3201/MP 3201																			
17	UC	AK 2208/ UA 2208/ CC2208	Автомобильдер құрылысы/ Устройство автомобилей/Construction of cars	5	150	15	15	15		30	75			5					5	exam
	Модуль 4 Жүктерді тасымалдау/ Транспортировка грузов/ Transport and Traffic			**12**	**360**	**30**	**45**	**15**	**20**	**60**	**190**		**7**	**5**							
18	UC	Zhuk 2202/ Gruz 2202/ Tru 2202	Жүктану/Грузоведение/Trucking	5	150	15	15	15		30	75			5					5	exam
19	OC	KK 1203/ TS 1203/ Veh 1203	Көлік құралдары/ Транспортные средства/Vehicles	5	150	15	30			30	75		5						5	exam
		BKZh 1203/ ETS 1203/ UTS 1202	Біртұтас көлік жүйесі/Единая транспортная система/Unified transport system																	
20	UC	OP 1206/ UP 1206/EP 1206	Оқу практикасы/ Учебная практика/ Educational practice	2	60				20		40		2						5	diff. credit
	Модуль 5 Көліктік қызметтер/ Транспортные услуги/ Transport Services			**10**	**300**	**30**	**30**	**30**		**60**	**150**				**5**		**5**				
21	OC	KL 3222/ TL 3222/ TL 3222	Көлік логистикасы/Транспортная логистика/Transport logistics	5	150	15	15	15		30	75						5		5	exam
		KoL 3222/ SL 3222/ WL 3222	Қойма логистикасы/Складская логистика /Warehouse logistics																	
22	OC	TTZhTM 2213/ TMPRR 2213/TML UO 2213	Тиеу-түсіру жұмыстарының технологиясы және механикаландыру/ Технология и механизация погрузочно-разгрузочных работ/ Technology and mechanization of loading and unloading operations	5	150	15	15	15		30	75				5				5	exam
		TTTK 2213/ TPRS 2213/ TLUF 2213	Тасымалдау және тиеу-түсіру құралдары/ Транспортные и погрузочно-разгрузочные средства/ Transport and loading and unloading facilities																	
	Модуль 6 Энергетикалық қондырғыларды пайдалану/			**20**	**600**	**45**	**45**	**45**	**50**	**90**	**325**				**10**	**10**					

	Эксплуатация энергетических установок/ Operation of power plants																				
23	ОС	КТЕК 3216/ EUTT 3216/ PPTT 3216	Көлік техникасының энергетикалық қондырғылары/Энергетические установки транспортной техники/Power plants of transport technics	5	150	15	15	15		30	75					5				5	exam
		IZhK 3216/ DVS 3216/ ICE 3216	Іштен жану қозғалтқыштары/ Двигатели внутреннего сгорания/ Internal combustion engines																		
24	ОС	OMZTS 2211/ TSMTZh 2211/ FLTL2211	Отын, майлағыш заттар және техникалық сұйықтар/ Топливо-смазочные материалы и технические жидкости/Fuel, lubricants and technical liquids	5	150	15	15	15		30	75				5					5	exam
		APM 2211/ AEM 2211/ AMM2211	Автомобильде пайдаланатын материалдар/Автомобильные эксплуатационные материалы /Automotive maintenance materials																		
25	ОС	AE 3217/ EA 3217/ EEC3217	Автомобильдердің электржабдықтары/ Электрооборудование автомобилей/ Electrical equipment of cars	5	150	15	15	15		30	75					5				5	exam
		ATED 3217/ DEAT 3217/ DEECT 3217	Автомобильдер мен тракторлардың электржабдықтарын диагностикалау/Диагностика электрооборудования автомобилей и тракторов/Diagnostics of electrical equipment of cars and tractors																		
26	UC	OP 2214/ PP 2214/ PP 2214	Өндірістік практика/ Производственная практика/ Production practice	5	150				50		100				5					5	diff. credit
	Модуль 7 Қолданбалы механика негіздері/ Основы прикладной механики/ Fundamentals of Applied Mechanics			**10**	**300**	**30**	**30**	**30**		**60**	**150**				**5**	**5**					
27	ОС	MK 2212/ SM 2212/ SM2212	Материалдар кедергісі/Сопротивление материалов/Strength of materials	5	150	15	15	15		30	75				5					7	exam
		MB 2212/ PM 2212/ DM 2212	Материалдар беріктігі/Прочность материалов/Durability of materials																		

28	ОС	ММТ3218 / ТММ 3218/ TMM3218	Механизмдер және машиналар теориясы/Теория механизмов и машин/Theory of Machines and Mechanisms	5	150	15	15	15		30	75					5				7	exam
		КМ 3218/ РМ 3218/ AM 3218	Қолданбалы механика/Прикладная механика/Applied mechanics																		
	Модуль 8 Көліктердегі қауіпсіздік/ Безопасность на транспорте/ Transport Security			**16**	**480**	**30**	**30**	**45**	**50**	**60**	**265**					**5**	**5**		**6**		
29	ОС	ККЕК 3219/ ЕВТ 3219/ EST3219	Көлік құралдарының экологиялық қауіпсіздігі/Экологическая безопасность на транспорте/ Environmental safety in transport	5	150	15	15	15		30	75					5				5	exam
		АКОКА 3219/ OVAOS 3219/ NECE 3219	Автомобильдердің қоршаған ортаға кері әсері/Отрицательные влияния автомобилей к окружающей среде/Negative effects of cars on the environment																		
30	ОС	ККК 4309/ BTS 4309/ VS 4309	Көлік құралдарының қауіпсіздігі/ Безопасность транспортных средств/ Vehicle safety	6	180	15	15	30		30	90								6	25	exam
		АКК 4309/ КВА 4309/ CS 4309	Автомобильдердің құрылымдық қауіпсіздігі/Конструктивная безопасность автомобилей/ Constructive safety of cars																		
31	UC	ОР 3223/ РР 3223/ PP 3223	Өндірістік практика/ Производственная практика/ Production practice	5	150				50		100						5			5	diff. credit
	КП/ПД/ MS		**Кәсіптік пәндер циклы/ Цикл профилирующих дисциплин/ Major subjects cycle**	**66**	**1980**	**165**	**195**	**225**	**50**	**330**	**1015**					**10**	**12**	**30**	**17**		
	Модуль 9 Көлік техникасын техникалық пайдалану/ Техническая эксплуатация транспортной техники/ Technical operation of transport technics			**28**	**840**	**75**	**90**	**105**		**150**	**420**						**5**	**12**	**11**		
	ОС	КМОZhU 4303/ OPRTP 4303/ OPWTE	Көліктік мекемелерде өндірістік жұмыстарды ұйымдастыру/ Организация производственных работ на транспортных предприятиях/ Organization of production work at	6	180	15	15	30		30	90							6			exam

32		4303 KKB 4303/ US 4303/ SM 4303	transport enterprises Қызмет көрсетуді басқару/Управление сервисом/Service management																		
33	UC	KTTPN 3301/ OTETT 3301/ BTOTE 3301	Көлік техникасын техникалық пайдалану негіздері/ Основы технической эксплуатации транспортной техники/Basics of technical operation of transport equipment	5	150	15	15	15		30	75						5			5	exam
34	UC	KBZZh 4309/ SSUT 4309/ MTMS 4309	Көлікті басқарудың заманауи жүйелері/ Современные системы управления транспортом/ Modern transport management systems	5	150	15	30			30	75								5	5	exam
35	OC	KTZh 4305/ RTT 4305/ RTT 4305 MZhTP 4305/ TEMO 4305/ TOME 4305	Көлік техникасын жөндеу/ Ремонт транспортной техники/ Repair of transport technics Машиналар мен жабдықтарды техникалық пайдалану/Техническая эксплуатация машин и оборудования/ Technical operation of machinery and equipment	6	180	15	15	30		30	90							6		7	exam
36	OC	KTTS 4310/ TSTT 4310/ TSTE 4310 AKTKK 4310/ TOAS 4310/ MAV 4310	Көлік техникасының техникалық сервисі/Технический сервис транспортной техники/Technical service of transport equipment Автотракторлық құралдарға техникалық қызмет көрсету/ Техническое обслуживание автотракторных средств/ Maintenance of automotive vehicles	6	180	15	15	30		30	90								6	5	exam
	Модуль 10 Жол құрылыс машиналарының динамикасы/ Динамика дорожно-строительных машин/ Dynamics of road construction vehicles			**16**	**480**	**45**	**45**	**60**		**90**	**240**						**10**	**6**			

37	ОС	KTD 3220/ DTT 3220/ DTE 3220	Көлік техникасының динамикасы/ Динамика транспортной техники/ Dynamics of transport equipment	5	150	15	15	15		30	75						5			5	exam
		ATT 3220/ TAT 3220/ TCT 3220	Автомобильдер және тракторлар теориясы/Теория автомобилей и тракторов/Theory of cars and tractors																		
38	ОС	ATKZh 3302/ SPAT 3302/PSS AE3302	Автотрактор техникасының қоректендіру жүйесі/Система питания автотракторной техники/Power supply system for automotive equipment	5	150	15	15	15		30	75						5			5	exam
		ATBZhD 3302/ DSUAT 3302/ DCSAE 3302	Автотракторлы техниканың басқару жүйелерін диагностикалау/ Диагностика систем управления автотракторной техники/Diagnostics of control systems of automotive equipment																		
39	ОС	ZhKM 4304/ DSM 4304 /RBM 4304	Жол-құрылыс машиналары/ Дорожно-строительные машины/Road building machines	6	180	15	15	30		30	90							6		5	exam
		KTM 4304/ PTM/ LTM 4304	Көтеру-тасымалдау машиналары/ Подъемно-транспортные машины/ Lifting and transporting machines																		
	Модуль 11 Кәсіби дайындық/ Профессиональная подготовка/ Professional training			**22**	**660**	**45**	**60**	**60**	**50**	**90**	**355**					**5**		**12**	**5**		
40	ОС	AS 4306/ AE 4306/AE 4306	Автотехникалық сараптама/ Автотехническая экспертиза/ Automotive Expertise	6	180	15	15	30		30	90							6		5	exam
		ZhKOS4306/EDTP 4306/ ERA 4306	Жол көлік оқиғасын сараптау/ Экспертиза дорожно-транспортных происшествий/Examination of road accidents																		
41	UC	AKKZhN 4307/ OPPAT 4307/ FDRTE 4307	Автомобиль көлігі кәсіпорындарын жобалау негіздері/ Основы проектирования предприятий автомобильного транспорта/ Fundamentals of designing road transport enterprises	6	180	15	15	30		30	90							6		5	exam

42	ОС	ZhDAN 2210/ MOPV 2210/ MFDT 2210 ZhKD 2210/ PPV 2210/ PTD 2210	Жүргізушілерді дайындаудың әдістемелік негіздері/Методические основы подготовки водителей/ Methodological framework of drivers training Жүргізушілерді кәсіби дайындау/Профессиональная подготовка водителей/Professional training of drivers	5	150	15	30			30	75					5					exam
43	UC	KP 4311/ PP4311/ PP4311	Кәсіби практика/ Профессиональная практика/ Professional practice	5	150				50		100								5	5	diff. credit
			Қорытынды модуль/ Итоговый модуль/ Final module																		
			Қорытынды аттестаттау/ Итоговая аттестация/ Final certification	**8**	**240**				80		160								8		
			Барлық кредиттер/ Итого/ Total credits	**244**	**7320**	**555**	**1020**	**495**	**250**	**1350**	**3650**	**32**	**32**	**32**	**28**	**30**	**30**	**30**	**30**		

[1]Note:

Department number	The name of the department
1	Agronomy, breeding and biotechnology
2	Fruit and vegetable growing, plant protection and quarantine
3	Soil science, agrochemistry and ecology
4	Obstetrics, surgery and reproduction biotechnology
5	Biological safety
6	Clinical Veterinary medicine
7	Microbiology, Virology and Immunology
8	Veterinary sanitary examination and hygiene
9	"Physiology, morphology and biochemistry" named after N.U.Bazanova
10	Forest resources, hunting and fisheries
11	Land resources and cadastre
12	Water resources and land reclamation
13	Accounting, audit and finance
14	«Management and organization of agribusiness» named after Kh.D. Churin
15	Law
16	Zooengineering
17	Technology and food safety
18	Agricultural machinery and mechanical engineering
19	"Machine use" named after I.V.Sakharov
20	Energy saving and automation
21	IT technologies and automation
22	Social disciplines
23	Kazakh and Russian languages
24	Foreign languages
25	Physical education and sports
26	Military Department

4. Modules Competency Map

Codes	Module	Educational competence	Learning outcomes
MC1	**Module. Humanities and language**	aimed at the formation of fundamental source and historiographic materials, as well as for the achievement of modern historical science of Kazakhstan; to determine the role of the history of Kazakhstan in the system of humanitarian knowledge; on revealing the specifics of the object and subject of history of Kazakhstan for the analysis of topical problems of the modern stage of development; on creation of scientifically grounded concept of history of Kazakhstan based on integral and objective coverage of the main stages of ethnogenesis of the Kazakh people, evolution of forms of statehood and civilization in the Great Steppe; on systematization of knowledge of the main events of the modern history of Kazakhstan.	- demonstrate knowledge and understanding of the main stages of development of the history of Kazakhstan - correlate the phenomena and events of the historical past with the general paradigm of world-historical development of human society through critical analysis; - possess the skills of analytical and axiological analysis in the study of historical processes and phenomena of modern Kazakhstan - be able to comprehend objectively and comprehensively the immanent features of the modern Kazakhstan model of development - to systematize and give a critical assessment of historical phenomena and processes in the history of Kazakhstan.
MC2		form a system of general competencies that ensure the socio-cultural development of the personality of the future specialist based on the formation of his ideological, civic and moral positions;	- to evaluate the surrounding reality on the basis of ideological positions, formed by the knowledge of the fundamentals of philosophy, which provide scientific understanding and study of the natural and social world by methods of scientific and philosophical knowledge; - to interpret the content and specific features of the mythological, religious and scientific worldview; - to give assessment to everything happening in the social and industrial spheres;
MC3		develop the ability to interpersonal social and professional communication in the state, Russian and foreign languages;	- implement the use of language and speech tools based on a system of grammatical knowledge; analyze information in accordance with the situation of communication; - to carry out the use of linguistic and speech means based on the system of grammatical knowledge; analyze information in accordance with the communication situation;
MC4	**Module. Professional and communicative**	The development of information literacy through the mastery and the use of modern information and communication technologies in all areas of life and work;	- evaluate the actvities and actions of communication participants. - to use in personal activities various types of information and communication technologies: Internet resources, cloud and mobile services for searching, storing,

			processing, protecting and distributing information;
MC5		Have an intolerant attitude toward corrupt behavior, respectful of legislation and law.	- analyze events and actions from the point of view of the area of legal regulation and be able to refer to the necessary regulatory acts; - to be guided in the current legislation; using the law, to protect their rights and interests, - to carry out professional activities on the basis of a developed legal awareness, legal thinking and legal culture; - to acquire a sufficient level of legal awareness; - be able to assess the facts and phenomena of professional activity from an ethical point of view; - apply moral rules and norms of behavior in specific life situations
MC6		Be competent to analyze and obtain information in accordance with the basic knowledge of the economy; use the basics of economic knowledge in various fields;able to apply this knowledge in solving situational and practical problems.	- to know the fundamental problems of the functioning of the economy, the mechanism of action and manifestation of economic laws, as well as the main features of the leading schools and areas of economic science; - to be aware of economic terms and categories, use them in their educational activities; - to understand and know the main events of the world and domestic economic history, the course of ongoing reforms in the light of the strategy "Kazakhstan - 2050", development trends in the field of modern business; - to distinguish and compare the behavior of market agents in different types of market structures; - to explain the interaction of economic agents in macroeconomic markets; - to compare the impact of macroeconomic policies in different countries; - to argue their own views on modern macroeconomic phenomena; - to use the knowledge gained in practice to assess the results of economic reforms in Kazakhstan
MC7		To be competent in the application of methods for the implementation of low-waste production and the assessment of the environmental efficiency of economic activity.	- know the contents of the basic terms in the field of ecology, environmental management; modern global and regional environmental problems and their solutions; - be able to apply environmental knowledge to solve and predict possible environmental problems; - apply methods for the implementation of low-waste production and assess the environmental performance of economic

			activity. - establish causal relationships between phenomena occurring in nature and society, - apply environmental knowledge to solve and predict possible environmental problems.
MC8		Contribute to the ability to apply this knowledge to address the issues of safety and reliability of operation of machinery and equipment and knowledge of the issues of social protection of workers.	- to know the main legislative acts on industrial safety, labor protection, environmental protection and civil protection; - apply the knowledge gained to address the safety and reliability of the operation of machinery and equipment; - ability to evaluate machinery and process equipment in terms of exposure to abnormal situations.
MC9	**Module. Socio-political knowledge and a healthy lifestyle**	form the skills of self-development and education throughout life;	-to assess situations in various spheres of interpersonal, social and professional communication, taking into account the basic knowledge of sociology, political science, cultural studies and psychology; - to synthesize knowledge of these sciences as a modern product of integrative processes; - to use scientific methods and approaches of research of a specific science, as well as the entire socio-political cluster; - develop their own moral and civic position; - operate with the social, business, cultural, legal and ethical norms of Kazakhstan society; - demonstrate personal and professional competitiveness; - to put into practice knowledge in the field of social sciences and humanities, having international recognition; - to make a choice of methodology and analysis; - summarize the results of the study; - to synthesize new knowledge and present it in the form of humanitarian socially significant products;
MC10		form a personality capable of mobility in the modern world, critical thinking and physical self-improvement.	- to build a personal educational trajectory throughout life for self-development and career growth, focus on a healthy lifestyle to ensure full social and professional activities through methods and means of physical culture.
Core and major subjects competencies			**Learning Outcomes**
MC11	**Module 1 Economics and Writing**	In matters of competent communication, based on the goals and situations of communication; professional writing and oral communication; creating texts of various types for research,	1) Review the structure and pragmatics of scientific communication; 2) to define the features of the scientific style, the principles of the organization of scientific texts, the main features of the genres of academic writing: essay, abstract, abstract, review

		business, design and other purposes, scientific genres, including scientific reviews, annotations, abstracts on the subject of ongoing research.	3) demonstrate the ability to analyze essays and scientific articles, apply the knowledge gained in the creation of research works in written and spoken form
MC12	**Module 2 Natural Sciences**	In the formulation and solution of mathematical problems and the physical interpretation of the laws of physics and phenomena encountered in the course of activity	1) apply the basic mathematical and physical laws and formulas, features and limits of their applicability and the relationship between them; 2) to streamline the methods and ways to solve the main typical tasks, the main methods of conducting scientific and experimental research and ways of mathematical processing of the results of physical measurements; 3) calculate standard tasks and be able to do modern mathematical calculations, which is an indicator of thorough learning of theoretical material
MC13	**Module 3 Autotractor equipment and machine parts**	The solution of various engineering - geometrical tasks, the development of drawings and other graphic technical documentation and their use in the work, the device of automotive engineering	1) to characterize the technical specification of parts, the main structural materials and their properties; 2) to depict the shape of the object according to the drawing, its images in the drawing and associate with the device of automotive engineering; 3) to develop and use graphic technical documentation, correctly calculate the drawings, build the form of parts of autotractor equipment according to the drawing
MC14	**Module 4. Cargo transportation**	The concept of cargo as an object of labor in the production process. Information that ensures the development of competencies necessary for the safe and safe transportation of goods by road transport Definitions of the main terms, general characteristics of the transport system, the scope of activity of the main urban, industrial, specialized and non-traditional modes of transport. The impact of the market economy on the development of transport.	1. Analyze the geographical picture of transportation and make a rational route; 2. Choose the types and types of vehicles; 3. Describe the types of vehicles and their purpose; 4. Form production programs, distinguish vehicles depending on the destination; 5. Give examples of the interaction of different types of transport;
MC15	**Module 5 Transport Services**	Understanding of automotive engineering and vehicles for the purpose and application in freight and passenger traffic,	1) to link the types of vehicles and their purpose, the basics of transport logistics and issues in international transport; 2) explore the basics of business

		organization of business planning with accurate economic analysis and evaluation of its effectiveness	organization and business planning, economic issues during the operation of various types of transport; 3) streamline vehicles depending on the destination, organize and manage freight and passenger traffic, draw up business plans, organize clear approaches in organizing business ideas
MC16	**Module 6. Operation of power plants**	Identification of the main disadvantages and the ability to evaluate the performance indicators of fuel and lubricants used in power plants of cars and existing machines.	1. To reveal the basics of the device of power plants, the principle of operation of power plants; 2. Describe the transport equipment, design issues, calculation of the main reliability parameters, the device, the principle of operation of the systems, as well as the main operational materials for the operation of automotive equipment; 3. Solve the problems of calculating the parameters of power plants of vehicles, determine the operational and economic indicators of power plants and the main equipment systems of transport equipment; 4. Identify and eliminate malfunctions, adjust the main systems of automotive equipment, determine the characteristics of automotive operational materials. 5. Identify and eliminate malfunctions of electrical equipment systems of automotive equipment.
MC17	**Module 7 Fundamentals of Applied Mechanics**	Development of logical thinking and analysis of technological processes and modes of operation of individual parts and components of machines necessary for solving specific technical and technological problems associated with the development of methods and technical means that increase the efficiency of operation and design of engineering facilities	1) to explain the methods of reducing the systems of forces to the simplest form and methods for calculating the strength and rigidity of typical elements of various structures; 2) indicate the general principles of the implementation of the movement with the help of mechanisms and the basis of calculations of parts and components of machines on the criteria of efficiency 3) to illustrate mechanical phenomena, presenting concrete mechanical problems in an abstract form; 4) calculate and select the material for strength, rigidity and stability; 5) to connect the principles of efficiency and criteria for failure of machinery mechanisms and machine parts, investigate the relationship of machinery mechanisms and machine parts
MC18	**Module 8 Transport**	Understanding of occupational safety at work and in the	1) to quote the main provisions of the regulatory acts of the Republic of

	Security	operation of transport and its impact on the environment	Kazakhstan in the field of labor protection and environmental safety, the labor protection management system at work, causing violation of labor protection requirements, multifunctional activities of people necessary to solve safety problems 2) to solve specific engineering tasks for the prevention of industrial injuries; 3) select ways and means of protection from dangerous and harmful factors, anticipate and promptly prevent possible hazards and hazards at work
MC19	**Module 9 Technical operation of transport technics**	In matters of testing, repair and maintenance of machinery and equipment in transport equipment	1) to classify the types of tests and their purpose, model test programs for agricultural machinery, types of assessments when conducting one or another type of test; 2) to transform the theoretical foundations of the organization and design of technical services; 3) modify the organizational form and material and technical base of the technical service enterprises, calculate prices for services, warranty stocks of parts, materials, components and assemblies for specific periods
MC20	**Module 10. Dynamics of road construction vehicles**	The ability to identify rational modes of operation of transport equipment, diagnose and identify malfunctions in the power systems of gasoline and diesel engines of transport equipment. Ability in the field of effective traffic management on roads to improve the organization of construction, maintenance and repair	1. Use calculations of traction-speed and fuel-economic properties, calculate the parameters of controllability, stability, cross-country ability, braking dynamics and smooth running of cars and tractors. 2. To develop the main directions and prospects for the further development of road construction machines; 3. Determine the effectiveness of work on the technical operation of power supply systems for automotive equipment, troubleshooting methods, drawing up a search algorithm 4. Interpret the basic principles and methods for improving the efficiency of use, maintaining operational properties, and ensuring safety conditions during the operation of road construction machines;
MC21	**Module 11. Professional training**	Expert study of the technical condition of systems, aggregates, mechanisms, components and parts of technical means. Concepts of the production and	1. Develop a methodology for conducting expert examinations in road accidents; 2. Interpret the degree of risk in the operation of transport on the roads; 3. Use auto-trainers for driving training, conduct a proper examination of an

		technical base, the forms of its development, the functioning of various types of road transport enterprises. Mastering theoretical knowledge and practical skills in training drivers, reducing the level of danger when driving a vehicle and preventing accidents.	accident 4. To form an integrated approach to the organization of driver training, planning training with the use of technical means, training techniques in real road conditions. 5. Give a description of motor transport, car maintenance and car repair enterprises. 6. Know the regulatory documents used in the design of road transport enterprises, and their brief characteristics.

*Appendix 2.1**

Information about the disciplines

№	Name of the discipline	Short description of the discipline (30-50 words)	Number of credits	Formed competencies (codes)
General education subjects cycle / Core Component				
1	History of Kazakhstan (SE)	The study of the course is aimed at the formation of students the concept of modern history of the Fatherland, based on a holistic and objective coverage of the problems of ethnogenesis of the Kazakh people, the evolution of forms of statehood and civilization in the great steppe and the totality of the most significant historical facts and events. Systematization of historical knowledge about the main events of history, forming a scientific worldview and citizenship. Creation of ideological and spiritual basis for consolidation of multi-ethnic and multi-confessional Kazakhstan society	5	MC1
2	Philosophy	The course is aimed at the formation of students ideas about philosophy as a special form of knowledge of the world, its main sections, problems and methods, as well as skills of self-analysis and moral self-regulation, the development of research abilities and the formation of intellectual and creative potential. Special attention is paid to the problems of preservation of national identity, the assimilation of such key worldview concepts as justice, dignity and freedom and the role of philosophy in the modernization of public consciousness and the solution of global problems of our time	5	MC2
3	Foreign language	Teaching a foreign language sets tasks for the development of foreign language communicative competence in the totality of its components: **speech competence** – development of communication skills in four main types of speech activity; **linguistic competence** – the mastery of new linguistic means (phonetic, orthographic, lexical, grammatical; **socio-cultural competence** –the formation of the ability to represent their country, its culture; **educational and cognitive competence** – familiarization with the available methods and techniques of self-study of languages and cultures.	10	MC3
4	Kazakh (Russian) language	The discipline is aimed for the development of language the personality of the student who is able to carry out cognitive and communicative activities in the Russian language in the areas of interpersonal, social, professional, intercultural communication in the context of the implementation of state programs of trilingualism and spiritual modernization of national consciousness. Discipline involves the successful mastery of speech activities in according to level training	10	MC3
5	Information and communication technology	Formation of the ability to critically evaluate and analyze the processes, methods of search, storage and processing of information, methods of	5	MC1, MC4

	(in English)	collecting and transmitting information through digital technologies. Mastering the conceptual foundations of the architecture of computer systems, operating systems and networks. Formation of knowledge about the concepts of development of network and web applications, information security tools.		
Social and political knowledge module (Social Studies Political Studies, Cultural Studies, Psychology)				
6	Social Studies	studies society, revealing the internal mechanisms of its structure and development of its structures(structural elements: social communities, institutions, organizations and groups); patterns of social action and mass behavior of people, as well as the relationship between the individual and society sociology explains social phenomena, collects and summarizes information about them.	2	MC2, MC9
7	Political Studies	the science of politics, the laws of the emergence of political phenomena (institutions, relations, processes), the ways and forms of their functioning and development, the methods of management of political processes, political consciousness, culture, etc., political consciousness, culture, etc.	2	MC2, MC9
8	Cultural Studies	teachings about culture, its history, essence, laws of functioning and development, which can be found in the works of scientists, representing various options for understanding the phenomenon of culture. In addition, the cultural Sciences study the system of cultural institutions through which human education is carried out and which produce, store and transmit cultural information	2	MC2, MC9
9	Psychology	Psychology – a science whose purpose is to study the mechanisms of functioning of the human psyche. It examines the patterns of human behavior in different situations, resulting in thoughts, feelings and experiences. Psychology is what helps us to know ourselves more deeply, to understand our problems and their causes, to realize our shortcomings and strengths. Her study will contribute to the development in man of moral character and ethics.	2	MC2, MC9
10	Physical Training	The discipline covers a range of issues related to physical culture as part of human culture, healthy lifestyle, its main components, socio-biological basis of adaptation of the human body to physical and mental activity, preparation for independent physical culture and sports, age physiology, self-control of physical condition, psychophysical basis of physical culture and sports, hygiene.	8	MC10
General education subjects cycle / Optional component				
11	Law and anti-corruption culture	The purpose of the discipline is the education of Kazakhstani patriotism as a necessary condition for the improvement of legal statehood in the Republic of Kazakhstan, the formation of students' world knowledge, the improvement of public, legal culture and private legal knowledge. Improving legal literacy within the framework of anti-corruption legislation and the formation of anti-corruption views of students, standards of behavior, negative attitude to any manifestations of corruption.	5	MC5 LO1, LO2

12	Economy	The purpose of the discipline is to reveal the general foundations of economic theory; study of the laws of farming and the rational behavior of business entities at various levels, clarification of the principles and laws of economic development.	5	MC6 LO8, LO9
13	Ecology	The course provides theoretical knowledge in the field of ecology, contributes to the improvement of environmental literacy of students, forms ecological thinking, as well as the ability to apply this knowledge in professional and other activities.	5	MC7 LO1, LO2
14	Life safety	The discipline "Life Safety" sets out the objectives of the course: organizing and ensuring the protection of the population from the consequences of accidents, catastrophes, natural disasters and the use of modern means of destruction; ensuring the sustainable functioning of business facilities in emergency situations of peace and war; organizing and carrying out rescue and other urgent work in the centers of destruction and areas of catastrophic flooding, measures to eliminate the consequences of modern weapons, natural disasters, major accidents and catastrophes.	5	MC8 LO2, LO9
15	Entrepreneurship	The purpose of the discipline is to develop students' understanding of how to create and develop a commercial or social project, as well as to familiarize students with the tools, practical knowledge and skills necessary in the framework of entrepreneurial activity. As a result of mastering the discipline, students will be able to gain an understanding of the elements of the entrepreneurial process and the process of finding and evaluating opportunities.	5	MC9 LO1, LO9
16	Fundamentals of Scientific Research	As a result of studying the theoretical course, student must learn the methodology and methodology of scientific research, be able to identify problem situations using the methods of analysis, synthesis and abstract thinking. As a result of learning the discipline, the student will acquire the skills of presenting scientific materials and forming the text of a scientific work. The knowledge gained during the course is necessary for the subsequent study of the disciplines of the professional cycle, the passage of professional practices, the preparation of the final qualifying work.	5	MC10 LO4, LO5, LO9
Core subjects cycle / University component				
17	Traffic regulations	The discipline covers the basics of theoretical knowledge and practical skills on the Rules of the road. As a result of mastering the discipline, a student can make the right decisions in typical driving situations and thus ensure both personal and collective safety when using vehicles.	5	MC11 LO3, LO6, LO11
18	Engineering and computer grafics	Formation of theoretical foundations for the construction of drawings; Formation of knowledge about the unified system of design documentation, about the rules for the design documentation; Formation of practical skills and abilities to develop and read product drawings. Mastering by students of the university environment of automation of	5	MC11 LO6, LO7, LO8

		engineering and graphic works for obtaining design documentation that meets the ESKD; the methodology for creating drawings in the AutoCAD system; training students to the rules for the execution and registration of design documentation; create drawings and save them, edit existing drawings; output drawings to a plotter or printer.		
19	Higher mathematics	The discipline studies the teaching of basic mathematical concepts and methods necessary for the analysis and modeling of economic problems in the search for rational solutions in difficult conditions; the development of analytical abilities necessary for solving scientific and practical problems; the formation of students' personality, the development of their intelligence and abilities for logical and algorithmic thinking, the development of an understanding of the universality of mathematical methods in the problems of describing phenomena and processes in economics and other fields.	5	MC12 LO1, LO3, P07
20	Physics	Formation of an in-depth understanding of the structure of matter, the nature of the phenomena occurring in it, determining the development of natural science and scientific and technological progress. The relationship of physics with other natural Sciences, related distroname. The role of physics in the creation and development of new branches of technology and new technologies. The influence of technology on the development of physics. Methods of physical research: experience, Grotta, experiment, theory.	5	MC12 LO1, LO3, P07
21	Theoretical mechanics	Basic concepts and axioms of mechanics; ways of transforming systems of forces; conditions of equilibrium of solids under the action of forces; ways of specifying the movement of a point, determining its speed and acceleration; translational, rotational and plane motion of a body, complex motion of a point; the main tasks of the point dynamics; the geometry of the masses of the mechanical system; general theorems of dynamics.	5	MC12 LO3, LO4, LO6, LO7
22	Materials Sciens and Technology of Structural Materials	Formation of a complex of knowledge about the properties and structure of materials, methods of production and hardening, patterns of hot processing and cutting of structural materials, equipment, machine tools and tools, the impact of technological methods of production and processing of workpieces on the quality of parts, modern methods of producing parts with specified operating characteristics necessary for the informed choice of the material of the part and processing technology.	6	MC12 LO3, LO6, LO7, LO8
23	Machine parts	Formation of students" skills of making the optimal decision when choosing the most rational materials, shapes, sizes, degrees of accuracy and surface roughness, as well as the technical conditions of manufacture, assembly and requirements for the operation of parts and assembly units of machines.	5	MC13 LO6, LO7, LO8, LO10, LO12
24	Construction of cars	Discipline is studying the general structure and	5	MC13

		classification of automobiles and internal combustion engines, the principle and order of operation of internal combustion engines. Construction and operation of a crank drive mechanism, gas distribution mechanism, cooling and lubrication system, gasoline engine power supply system, diesel engine power supply system, ignition system, vehicle transmission and undercarriage, control and braking systems.		LO4, LO5, LO6, LO12
25	Trucking	The discipline deals with the basics of theoretical knowledge and practical skills in cargo handling. As a result of mastering the discipline, a student can make the right decisions in typical situations and thereby ensure both personal and collective security during the transportation of goods.	5	MC14 LO3, LO5, LO8
Core subjects cycle / Optional Component				
26	Accounting and analysis on transport	Comprehensive study of the procedure for accounting for costs associated with the maintenance and operation of vehicles, as well as the study of theoretical issues of accounting for vehicles. The concept and category of correct reflection of the main cost items for the maintenance of vehicles, taking into account the requirements of IFRS.	5	MC11 LO2, LO9, LO10
27	Transport statistics	The discipline studies: statistical observation in transport, statistics on the transportation of goods and passengers, fixed and working capital, vehicles, labor resources and their use, labor productivity, wages and incomes of transport workers, as well as the cost of transportation of goods and passengers, financial results of transport enterprises.	5	MC11 LO2, LO5, LO9
28	Vehicles	Studying and obtaining knowledge in the field of types of transport technology, classification, general structure and principles of operation of mechanisms and various systems of modern technology. Will be systematized basic information about road transport (ATS) means. The issues related to the classification, identification system, scope and design features of cargo PBXs are considered. Covered issues associated with the choice of vehicles.	5	MC14 LO3, LO4, LO6, LO7, LO12
29	Unified transport system	Studying and gaining knowledge in the field of a unified transport system, ensuring the coordinated development and functioning of all modes of transport in order to maximize the satisfaction of transport needs at minimal cost. Issues of meeting the transport needs of a person and means of transportation, objects of transportation, as well as the environment will be considered.	5	MC14 LO4, LO6, LO11, LO12
30	Transport logistics	Discipline on the laws and principles by which transport develops and serves consumers, and also tells you what problems exist from the point of view of the transport manager and logistics. We consider the problems of a general economic nature and management issues aimed at improving the efficiency of the organization and provision of cargo transportation.	5	MC15 LO3, LO5, LO10
31	Warehouse logistics	Studies the main issues of warehouse organization and management in trade based on the principles of	5	MC15 LO2, LO3,

		logistics, including the design and equipment of warehouse complexes, work with cargo units, organization of technological processes in warehouses, tools to improve the efficiency of warehouse activities.		LO6, LO8
32	Technology and mechanization of loading and unloading operations	The issues of organization and management of technology and mechanization of loading and unloading operations, methods, technologies of mechanization and automation of loading and unloading operations and warehouse operations with various cargoes are considered, practical skills are formed in the preparation, organization and high-quality performance of works and operations on technology and mechanization of loading and unloading operations.	5	MC15 LO3, LO6, LO7, LO8
33	Transport and loading and unloading facilities	During the course of studying the discipline, students are given basic information about motor vehicles (ATS) and loading and unloading facilities, about the classification and properties of goods transported by road, containers, packaging and labeling of goods, pallets and containers. The issues related to the classification, designation system, scope and design features of freight PBX are considered, the classification and general characteristics of loading and unloading facilities and cargo handling devices to them are presented, a description of their device, operation and scope of application is given.	5	MC15 LO5, LO7, LO10, LO11
34	Power plants of transport technics	The discipline studies the basic concepts and definitions of the theory of tractor and automobile engines, the main internal combustion engines (ICE), the thermodynamic processes of piston engines, the processes of intake, compression, combustion, expansion, exhaust in the internal combustion engine and indicator diagrams of the ICE.	5	MC16 LO4, LO5, LO7, LO12
35	Internal combustion engines	Discipline studies the basic concepts and definitions of the theory of tractor and automobile engines. The structure and general principles of operation of internal combustion engines and their systems, and then the design of specific engines, are considered. Questions such as the use of power gas turbines, the reduction of toxicity of internal combustion engines, the use of methods for their diagnosis, etc. will be reflected.	5	MC16 LO4, LO5, LO7, LO10
36	Fuel, lubricants and technical liquids	Discipline is aimed at the acquisition by future specialists of theoretical knowledge about the performance properties of fuels, lubricants and technical fluids, and their impact on the technical and economic indicators of automotive and agricultural equipment, rational use, saving oil products and reducing their losses, safety regulations, fire prevention measures, protection environment when using fuel-lubricants and practical skills to determine their properties.	5	MC16 LO4, LO6, LO12
37	Automotive maintenance materials	Discipline is aimed at the acquisition by future specialists of theoretical knowledge about automotive performance materials and their impact on the technical and economic indicators of	5	MC16 LO5, LO6, LO11, LO12

		automotive and agricultural equipment, safety regulations, fire prevention measures, environmental protection when using automotive performance materials and practical skills to determine their properties.		
38	Electrical equipment of cars	Discipline is aimed at the acquisition by future specialists of theoretical knowledge on the purpose, device and principles of operation of the electrical and electronic systems of the car, as well as practical skills in diagnosing, maintaining and repairing electrical equipment of the car, using electrical circuits and instructions on transport models.	5	MC16 LO3, LO4, LO5, LO6
39	Diagnostics of electrical equipment of cars and tractors	Discipline is aimed at the acquisition by future specialists of theoretical knowledge on the purpose, device and on the principles of operation of the units of electrical and electronic systems of the car, as well as practical skills in diagnostics, electrical equipment of the car, through the use of electrical circuits and instruments.	5	MC16 LO4, LO7, LO8, LO12
40	Strength of materials	Resistance of materials is the basis of all engineering calculations for strength, stiffness and stability of all structural elements. The physical and mechanical properties of materials, stresses and strains in the simplest and most complex types of deformation are studied. The laws of stability of structural elements, as well as the behavior of materials under dynamic and variable loads are considered.	5	MC17 LO4, LO6, LO7, LO8
41	Durability of materials	The discipline forms students' ability to choose design schemes of the structure, on the basis of which calculations of structural elements for strength, rigidity and stability are performed, as well as to select materials and optimal dimensions, determine the values of permissible loads on structures.	5	MC17 LO6, LO7, LO8
42	Theory of Machines and Mechanisms	Familiarization with the main types, the principles of constructing the structure of mechanisms and machines, the principles of operation of individual mechanisms, and their interaction in the machine. The study of general methods of research and design of schemes of mechanisms necessary to create machines. Formation of skills in finding the kinematic and dynamic parameters of given mechanisms and machines and the optimal parameters of the designed mechanisms for given kinematic and dynamic properties.	5	MC17 LO4, LO6, LO7
43	Applied mechanics	The basic concepts and axioms of mechanics are revealed; methods for converting systems of forces; methods for specifying the movement of a point; determining its speed and acceleration in rotational, flat and complex motion; general theory of dynamics; calculations for strength, rigidity and stability of all structural elements; the behavior of materials under dynamic loads is studied.	5	MC17 LO6, LO7, LO8, LO10
44	Environmental safety in transport	Discipline studies modern problems of environmental safety in transport, modeling traffic flow from the standpoint of environmental safety, methods of calculating pollutants from road	5	MC18 LO2, LO3, LO7, LO8

		transport, the characteristics of the impact of transport communication on environmental safety, methods of reducing the harmful effects of traffic flow on the environment.		
45	Negative effects of cars on the environment	This discipline deals with issues of environmental safety in transport, traffic management from the standpoint of environmental safety, pollutants from transport, the exposure of vehicles and technology to the ecological state of the environment.	5	MC18 LO2, LO4, LO5, LO12
46	Dynamics of transport equipment	The subject studies the operational properties of cars and tractors, the forces acting on the car and the tractor during its movement, traction dynamics, braking properties, fuel efficiency, controllability and stability of the car and tractor.	5	MC20 LO4, LO7, LO8, LO12
47	Theory of cars and tractors	The performance characteristics, classification and layout schemes, as well as the fundamentals of the theory of tractors and automobiles are considered: the work of the driven, driving wheel and tracked propulsion, traction and energy balances, traction and braking dynamics, throughput, stability, controllability, smoothness, methods of experimental evaluation of traction performance . Ways to reduce the dynamic loads in tractors and cars and ways to reduce the harmful effects of propulsion on the soil are outlined.	5	MC20 LO3, LO6, LO7, LO8
48	Methodological framework of drivers training	In this discipline, a student studies the essence of a vehicle driver's training, the principles of training and organization of the educational process, car simulators and training cars. The application of the knowledge gained will help improve the skills of driving a car in difficult and real road conditions.	5	MC21 LO2, LO3, LO6, LO7
49	Professional training of drivers	The discipline examines the influence of traffic conditions and road elements on traffic safety. As a result of mastering the discipline, the student gains knowledge and driving skills in critical traffic situation.	5	MC21 LO2, LO3, LO6, LO7
Major subjects cycle /University component				
50	Basics of technical operation of transport equipment	Discipline deals with providing opportunities to realize the potential properties of transport equipment, reducing maintenance costs, reducing downtime and ensuring high productivity of work for which the equipment was intended. Studies the patterns of change in the technical condition of transport equipment, arising under the influence of various factors in the course of its operation. Allows you to reasonably determine the standards of technical operation, the provision of works on the technical operation of transport equipment with various means of service.	5	MC19 LO5, LO7, LO8, LO9
51	Modern transport management systems	The discipline studies various types of navigation equipment, including parallel and automatic driving of automotive equipment, types of GPS receivers and the possibility of using them on vehicles, introduces the theoretical, methodological and technological foundations of modern positioning systems based on location determination using a GPS satellite system.	5	MC19 LO3, LO5, LO10, LO11, LO12
52	Fundamentals of designing road	They study the classification of road transport enterprises, a description of the structure and	6	MC21 LO2, LO5,

	transport enterprises	composition of the production and technical base of enterprises, stages and methods of design and reconstruction of enterprises, planning solutions for enterprises of various purposes and capacities, methods of adapting standard projects.		LO9, LO10
Major subjects cycle /Optional component				
53	Vehicle safety	The discipline studies the issues of types of vehicle safety and regulatory documents, braking dynamics of a car, stability of a car, controllability of a car, smoothness of a car, types of information content of a car, sound information content of a car, external and internal visual information content, ergonomics of the driver"s workplace. Passive, post-accident and environmental safety of vehicles.	6	MC18 LO3, LO5, LO6, LO11
54	Constructive safety of cars	The discipline addresses the issues of the operational properties of the car, the braking dynamics of the car, the stability of the car, the handling of the car, the smoothness of the car, the types of information content of the car, the sound information content of the car, the external and internal visual information content, the ergonomics of the driver"s workplace.	6	MC18 LO2, LO5, LO6, LO9
55	Organization of production work at transport enterprises	The discipline examines the organizational and production structure of road transport enterprises, the main areas of work to ensure the safety of the ATP traffic, the work of the maintenance service of auto enterprises to prevent accidents, the role of production and technical services in ensuring traffic safety, the organization of the work of the traffic safety cabinet, the official investigation of the accident.	6	MC19 LO3, LO5, LO8, LO9, LO10
56	Service management	The discipline considers the basic requirements and recommendations for the organization of labor, production and production processes of maintenance and repair of cars and their units at road transport and car service enterprises, as well as for the formation of production programs in them, for the organization of material support for production and quality control of maintenance and repair of cars.	6	MC19 LO5, LO8, LO9, LO11
57	Repair of transport technics	Discipline is aimed at developing students' system of scientific and professional knowledge and skills in the management of the technical condition of transport equipment, enriches with knowledge of methods and means of maintenance and repair of transport equipment, implementation of a preventive maintenance system and repair of transport equipment and work with various types of regulatory and technical documentation in the field of technical operation of transport equipment in order to increase the efficiency of operation of transport equipment.	6	MC19 LO5, LO6, LO7, LO9
58	Technical operation of machinery and equipment	Discipline studies the basic requirements for the design of machinery and equipment for various operating conditions; the main provisions of the technical service of cars, tractors, cars and their equipment; methods of diagnosis, mechanisms, machines in general and the characteristics of the applied process equipment.	6	MC19 LO3, LO6, LO7, LO12

59	Technical service of transport equipment	Discipline studies the place of technical service in the system of transport equipment, maintenance issues, troubleshooting and storage of equipment; repair service base;principles of organization of machine-technological stations; planning and organizing the maintenance of machinery, leasing forms of equipment rental.	6	MC19 LO4, LO5, LO7, LO9
60	Maintenance of automotive vehicles	Discipline is aimed at studying the scientific foundations, systems, tools and methods of technical maintenance of technological machines in order to ensure reliable and high-performance work. The study of the discipline forms in students a system of scientific and professional knowledge and skills in the management of the technical condition of machinery and equipment, enriches with knowledge of methods and means of maintenance.	6	MC19 LO4, LO5, LO7, LO9
61	Power supply system for automotive equipment	Discipline is aimed at the acquisition by future specialists of theoretical knowledge about the purpose, device and principles of operation of the vehicle power supply units, as well as practical skills in diagnosing, maintaining and repairing vehicles power supply units using modern digital means for monitoring.	5	MC20 LO3, LO6, LO7, LO12
62	Diagnostics of control systems of automotive equipment	Discipline is aimed at the future specialists acquiring theoretical knowledge about the purpose, structure and principles of operation of the vehicle's control systems, as well as practical skills in diagnosing, maintaining and repairing blocks of vehicle control systems using modern digital diagnostic devices.	5	MC20 LO3, LO7, LO12
63	Road building machines	Discipline examines the technical and economic performance of road-building machines, their classification, information about the details and the main parts of road-building machines. In accordance with the accepted qualification, the material on the machines in the context of each group will be described in detail, and information on the operation of road-building machines will be given.	6	MC20 LO6, LO7, LO8, LO11
64	Lifting machinery	Discipline examines the design of modern hoisting machines, the principles of their action, the scope. Examples of the selection, calculation and design of mechanisms will be given. Attention is paid to the issues of complex mechanization and automation of production processes, improving the reliability and productivity of machines, as well as economic issues.	6	MC20 LO4, LO5, LO8, LO11
65	Automotive Expertise	Discipline is aimed at studying the basic methods of investigation and examination of accidents so that using the knowledge and skills obtained, the specialist can competently solve organizational, scientific and technical problems when organization of road transport associated with the establishment Objective Causes of a Traffic Accident (RTA)	6	MC21 LO3, LO6, LO7, LO9
66	Examination of road accidents	Discipline is aimed at acquiring knowledge about the organizational aspects of auto-technical expertise, aimed at ensuring the safety of traffic flow on roads and in cities. Given the main provisions on the organization and production	6	MC21 LO2, LO4, LO6, LO11

		examination of road accidents from the legal and technical parties. Examines the existing in judicial practice methods of expert studies of common road accidents.		

5. Summary table reflecting the volume of disbursed credits in the context of the educational program:

Training course	Semester	The number of studied disciplines			The number of academic credits						Total hours	Military training	Quantity	
		CC	UC	OC	Theoretical training	Training practice	Professional internship	Professional practice	Final asessment	Total			exam	differentiated credit
I	1	17	10	5	32					32	960		6	1
	2	20	7	5	30	2				32	960		5	2
II	3	12	20		32					32	960		6	1
	4	2	11	15	23		5			28	840		4	2
III	5			30	30					30	900		6	
	6		15	15	25		5			30	900		5	1
IV	7		6	24	30					30	900		5	
	8		10	12	17			5	8	30	900		3	1
Total		**51**	**79**	**106**	**219**	**2**	**10**	**5**	**8**	**244**	**7320**		**40**	**8**

Appendix to EP

Appendix 1

Practice base

№	Name of companies, enterprises, organizations	Contacts Tel, e-mail
1	Railroad station «Altynkol»	8 776 222 4567 altpto@mail.ru
2	LLP «ZeD Commerce Compani»	8 707 291 3762 Zhomarttkd@mail.ru
3	LLP «Almaty city bus fleet №2»	8 727 394 0561 avtopark2@list.ru
4	JSC «КТЖ- Freight transport» Semey sity.	8 722 238 1503
5	IE «Zhetysu»	8 702 659 5803
6	JSC «Kaskelenskoe»	8 727 524 6584
7	IE «Tulpar-Express»	8 727 295 60 54 tulpar-express@mail.ru
8	LLP «NORP» Ақtau sity.	8 729 220 1985 Norp-aktau@mail.ru
9	«Interior ministry, Turkistan region, Keles district»	8 775 347 6565 Nurzhas9093@mail.ru
10	"Department of Housing and communal services, passenger transport and highways»	8 729 382 2896 Jkx_tupkaragan@mail.ru
11	Baiserke-agro Educational, Scientific and production center LLP	8 727 254 52 32 baiserkeagro@mail.ru
12	JSC "Kazakhstan Railway" Atyrau branch of the main network	8 712 295 5422 8 712 295 3329