

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
KHARKIV NATIONAL AUTOMOBILE AND HIGHWAY UNIVERSITY

EDUCATIONAL AND PROFESSIONAL PROGRAM

«MOTOR VEHICLE TRANSPORT»

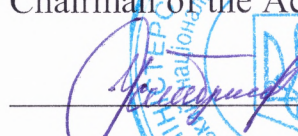
first (bachelor's) level of higher education
in the specialty J8 Motor vehicle transport
field of knowledge J Transport services
qualification Bachelor of motor vehicle transport

APPROVED

Academic Council of KhNAHU

Protocol No 88/26 dated "03" July 2026

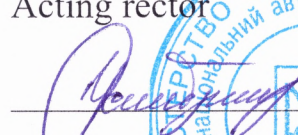
Chairman of the Academic Council

 Illia DMYTRIIEV

The educational program will come into force on
September 1, 2026.

Order No. 92 of "06" July 2026

Acting rector

 Illia DMYTRIIEV

Kharkiv 2026

PREFACE

1. Developed by the project group:

Ihor MARMUT, associate professor of the department of motor vehicle transport systems engineering named after M.Ya. HOVORUSHENKA, guarantor educational and professional program



Volodymyr VOLKOV, head of the department of motor vehicle transport systems engineering named after M.Ya. HOVORUSHENKA



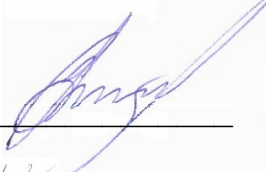
Yuriy HORBIK, associate professor of the department of motor vehicle transport systems engineering named after M.Ya. HOVORUSHENKA



Vyacheslav PAVLENKO, associate professor of the department of motor vehicle transport systems engineering named after M.Ya. HOVORUSHENKA



Vitaly VERKHLOMCHUK, head of the after-sales service department, "Art City", Kharkiv.



Vadym KOZHUSHKO, applicant group A-43-22



2. Recommended by the methodological commission of the automotive faculty
Minutes № 10/26 dated June 15, 2026.

3. Approved by the Methodical Council
Minutes № 7 of July 01, 2026.

4. Reviewers:

Ihor HRYTSUK, professor of the department of operation of ship power plants of the Kherson State Maritime Academy, Kherson.

Oleksandr STEPKO, chairman of the board of PJSC "ATII-16364", director of "Express" LLC, Kharkiv.

1. PROFILE OF THE EDUCATIONAL PROGRAM

1 - General information	
Full name of the institution of higher education and the department responsible for the implementation of the educational program	Kharkiv National Automobile and Highway University, Department of motor vehicle transport systems engineering named after M.Ya. HOVORUSHENKA
The degree of higher education and the title of the qualification in the original language	Degree of higher education – bachelor, the title of the qualification is a Bachelor of Motor vehicle transport
Mode of study	Full-time, part-time, distance, dual.
The official name of the educational program	Educational and professional program "Motor vehicle transport"
Type of diploma and scope of the educational program	Bachelor's degree, single, study period 3 years and 10 months The amount of ECTS credits required for obtaining the first (bachelor) degree of higher education: - on the basis of complete general secondary education is 240 ECTS credits; - on the basis of a junior bachelor's degree (educational and qualification level "junior specialist"), a higher education institution has the right to recognize and re-enroll no more than 120 ECTS credits obtained within the framework of the preliminary educational program of training a junior bachelor (junior specialist) in specialties within the fields of knowledge 13 – Mechanical engineering, 14 – Electrical engineering, 18 – Production and technologies, 27 – Transport, and no more than 60 ECTS credits received within the framework of the preliminary educational program of training junior bachelor (junior specialist) in other specialties of other fields of knowledge; - on the basis of the "professional junior bachelor's" degree, the higher education institution has the right to recognize and re-enroll no more than 60 ECTS credits received under the previous educational program of professional preliminary higher education"; - admission on the basis of the "junior bachelor's", "specialist junior bachelor's" or educational qualification level "junior specialist" is carried out based on the results of an external independent assessment in accordance with the procedure defined by the legislation.
Availability of accreditation	Certificate of accreditation of the educational program, issued National Agency for Higher Education Quality

	Assurance on April 10, 2025, № 10786. The validity period of the certificate of accreditation of the educational program is 01.07.2028.
Cycle/level	National qualification framework of Ukraine – level 6, FQ-EHEA – first cycle, EQF LLL – level 6.
Prerequisites	On the basis of complete general secondary education, on the basis of the "junior bachelor" or "professional junior bachelor" degree (on the basis of the "junior specialist" educational qualification level).
Language(s) of instruction	State and/or English languages.
The term of validity of the educational program	Entered into force on September 1, 2026. until the end of the validity period of the accreditation certificate or the next review and revision in accordance with changes in the regulatory framework of Ukraine in the field of higher education.
Internet address of the permanent placement of the description of the educational program	https://www.khadi.kharkov.ua/education/katalog-osvitnikh-program/j8-avtomobilnii-transport/

2 - The goal of the educational program

The goal of the program: formation of the personality of a specialist capable of solving typical and complex unpredictable tasks and problems of a complex nature in the field of road transport.

3 – Characteristics of the educational program

Subject area (field of knowledge, specialty)	Field of knowledge J "Transport Services". Specialty J8 "Motor vehicle transport". The objects of professional activity of graduates are: - processes related to all stages of the life cycle of motor vehicles and motor transport infrastructure. Learning goals: - training of specialists capable of solving specialized complex tasks and practical problems of road transport. Theoretical content of the subject area: - design, characteristics, operation, and disposal of motor vehicles, relevant facilities, infrastructure and technologies. Methods, techniques and technologies: • analytical, numerical and experimental studies; • methods and methods of calculating elements of constructions and systems of motor vehicles, their operational characteristics and reliability indicators; • technology of operation, diagnosis, modernization, restoration and disposal of motor vehicles and their components;
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	- technologies of construction and use of road transport infrastructure facilities; - methods of technical and economic calculations of indicators of activity (efficiency) of road transport, information and information and communication technologies. Tools and equipment: - devices and instruments for measuring physical quantities and parameters; - full-scale models or mock-ups of automobile vehicles and infrastructure objects of automobile transport; - specialized software; - information and analytical support systems for making management technical and technological decisions.
Orientation of the educational program	The main orientation of the program is applied and practical professional activity. The direction of the program is academic, applied, practical.
The main focus of the educational program and specialization	General higher education and professional training in the field of knowledge "Transport Services" with a specialty "Motor vehicle transport". The program in the specialty "Motor vehicle transport" is aimed at the maintenance of vehicles taking into account the operating conditions and the actual technical condition of the rolling stock at the expense of obtaining diagnostic information and forecasting. Keywords: automobile transport, diagnostics, technical operation, forecasting of the technical condition, car service equipment.
Features of the program	A practically-oriented system of education, which involves a combination of theoretical knowledge and practical skills. The program is based on modern trends in the development of the field of road transport, which take into account innovations in the construction of vehicles, technologies for their diagnosis, maintenance and repair with the help of modern BOSCH car service equipment. Applicants and graduates of this program have the opportunity to participate in technical trainings, business courses, and advanced training courses at the "BOSCH Academy" training center.
4 – Graduates' suitability for employment and further education	
Suitability for employment	Specialist trained for work according to Classification of types of economic activity (KVED) DK 009:2010: Class 29.1 – Production of motor vehicles Class 45.1 – Trade in motor vehicles Class 45.11 – Trade in cars and passenger vehicles

	Class 45.19 – Trade in other motor vehicles Class 45.2 – Maintenance and repair of motor vehicles Class 45.3 – Trade in parts and accessories for motor vehicles Class 49.31 – Passenger ground transport of city and suburban connections Class 49.32 - Provision of taxi services Class 49.4 – Freight road transport. After training, the specialist is awarded the educational qualification "Bachelor in Motor vehicle transport", he is able to perform the professions specified in the DK 003:2010 and International Standard Classification of Occupations 2008 (ISCO-08) professional work and can hold a corresponding position: 3115 – Motor vehicle mechanic (garage) 3115 – Transport repair mechanic 3115 – Equipment operation and repair technician 3115 – Technician-technologist (mechanics) 3139 – Road transport dispatcher 3139 – Diagnostic equipment technician 3139 – Specialist in auto technical expertise 3141 – Technician-mechanic for the repair of technological equipment 3152 – Road transport inspector
Further education	The possibility of continuing studies at the second (master's) level of education (National qualification framework of Ukraine – 7th level, FQ-EHEA – second cycle, EQF LLL – 7th level), receiving postgraduate education in related and other specializations, professional development, academic mobility.
5 – Teaching and assessment	
Teaching and learning	Student-centered learning, self-learning, problem-oriented learning, learning through lectures, laboratory and practical work. Elements of distance (online, electronic) learning, internships at specialized enterprises and research institutions.
Assessment	Oral and written tests, exams, tests, practical reports, independent course projects (papers), graduation work (project).
6 – Software competencies	
Integral competence	The ability to solve complex specialized tasks and practical problems in the field of road transport or in the learning process, which involves the application of certain theories and methods of technical sciences, economics and

	management and is characterized by the complexity and uncertainty of conditions.
General competences (CG)	CG 1. Ability to act on the basis of ethical considerations (motives). CG 2. Ability to apply knowledge in practical situations. CG 3. Ability to perform safe activities. CG 4. The ability to act socially responsibly and consciously. CG 5. Ability to communicate in the state language both orally and in writing. CG 6. Ability to use information and communication technologies. CG 7. Ability to work in a team. CG 8. Ability to communicate with representatives of other professional groups of different levels (with experts from other fields of knowledge/types of economic activity). CG 9. Ability to work autonomously. CG 10. Ability to adapt and act in a new situation. CG 11. The ability to show initiative and entrepreneurship. CG 12. Ability to work in an international context. CG 13. The ability to realize one's rights and responsibilities as a member of society, to realize the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine. CG 14. The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies, use different types and forms motor activity for active recreation and leading a healthy lifestyle. CG 15. The ability to make decisions and act in accordance with the principle of inadmissibility of corruption and any other manifestations of dishonesty.
Special (professional) competences of the specialty (SC)	SC 1. Ability to use knowledge of regulatory and legislative acts of Ukraine, Rules of technical operation of road transport of Ukraine, instructions and recommendations for operation, repair and maintenance of road transport objects and their systems in professional activities. SC 2. The ability to use knowledge of the basics of construction, operational properties, work processes and the basics of calculation of motor vehicles in professional activities. SC 3. The ability to conduct a measurement experiment and

	process its results. SC 4. Ability to develop technological processes, technological equipment and equipment, means of automation and mechanization in the process of operation, repair and maintenance of objects of road transport, their systems and elements. SC 5. The ability to compile, draw up and operate technical documentation of technological processes at road transport enterprises. SC 6. Ability to develop, taking into account safety, economic, ecological and aesthetic parameters, technical tasks and technical conditions for the design of road transport facilities, its systems and individual elements; draw up plans for placing equipment, technical equipment and organization of workplaces, calculate equipment loading and quality indicators of technological processes. SC 7. The ability to analyze the technological processes of operation, maintenance and repair of road transport objects as an object of management, to apply expert assessments for the development of management decisions regarding the further functioning of the enterprise, to ensure the quality of its activities. SC 8. Ability to organize effective operation of road transport facilities, their systems and elements. SC 9. Ability to organize effective production activities of structural divisions of road transport enterprises, small groups of performers (teams, divisions, points), regarding the operation, repair and maintenance of road transport objects, their systems and elements. SC 10. Ability to carry out technical diagnostics of objects of road transport, their systems and elements. SC 11. Ability to use specialized software to solve complex specialized problems of road transport. SC 12. The ability to organize the operation of the system of reporting and accounting (management, statistical, technological) work of objects and systems of road transport, to carry out administrative paperwork, documentation and quality management. SC 13. The ability to analyze the technical and operational indicators of motor vehicles, their systems and elements in order to identify and eliminate negative factors and increase the efficiency of their use. SC 14. Ability to actively participate in research and experiments, analyze, interpret and model individual phenomena and processes in the field of road transport.
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	SC 15. Ability to apply mathematical and statistical methods of collecting, systematizing, summarizing and processing information. SC 16. Ability to carry out technical diagnostics of vehicles, their electronic systems and elements using modern equipment (in particular BOSCH).
7 – Program learning outcomes (PLO)	
PLO 1. To have conceptual scientific and practical knowledge necessary for solving specialized complex problems of road transport, to critically consider relevant theories, principles, methods and concepts. PLO 2. Communicate freely in state and foreign languages orally and in writing when discussing professional issues. PLO 3. Apply specialized software, information and information and communication technologies to research models of objects and processes of road transport, operational properties of road vehicles, carry out engineering and technical and economic calculations, create design and construction documentation and solve other problems road transport. PLO 4. Search for necessary information in scientific and technical literature, databases and other sources; analyze and evaluate this information. PLO 5. To solve the problems of formation of labor resources and professional development of personnel; identify reserves for improving the work efficiency of employees of road transport facilities. PLO 6. Make effective decisions, analyze and compare alternative options taking into account goals and limitations, quality assurance issues, as well as technical, economic, legislative and other aspects. PLO 7. Analyze information obtained as a result of research, summarize, systematize and use it in professional activities. PLO 8. To understand and apply in professional activity regulatory and legislative acts of Ukraine, international normative documents, Rules of technical operation of motor transport of Ukraine, instructions and recommendations for operation, repair and maintenance of motor vehicles, their systems and elements. PLO 9. Analyze and evaluate objects of road transport, their systems and elements. PLO 10. Plan and carry out measurement experiments using appropriate equipment, analyze their results. PLO 11. To develop and implement technological processes, technological equipment and technological equipment, means of automation and mechanization in the process of operation, during repair and maintenance of objects of road transport, their systems and elements. PLO 12. To develop, draw up and introduce into production documentation on the technological processes of operation, repair and maintenance of motor vehicles, their systems and other instructions, rules and methods. PLO 13. Develop technical tasks and technical conditions for the design of road transport objects, its systems and individual elements; draw up plans for the placement of equipment, technical equipment and organization of workplaces, determine the composition and area of premises, calculate equipment loading and product quality	

indicators.

PLO 14. To analyze the technological processes of operation, maintenance and repair of road transport facilities.

PLO 15. Participate in the development and implementation of engineering and/or production projects in the field of road transport, determine the duration and sequence of works, resource needs, forecast the consequences of project implementation.

PLO 16. To organize the operation of motor vehicles, their systems and elements.

PLO 17. To organize effective production activities of structural subdivisions of road transport enterprises, small teams of performers (teams, divisions, points), regarding the operation, repair and maintenance of road transport facilities, their systems and elements.

PLO 18. To develop production process technologies at all stages of the life cycle of road transport facilities.

PLO 19. Carry out technical diagnostics of motor vehicles, their systems and elements using appropriate methods and means, as well as technical regulations, standards and other regulatory documents.

PLO 20. Collect and analyze diagnostic information about the technical condition of motor vehicles.

PLO 21. To organize the operation of the system of reporting and accounting (management, statistical, accounting and financial) work of objects and systems of road transport.

PLO 22. To carry out administrative records, documentation and quality management in accordance with regulatory and legal acts, instructions and methods.

PLO 23. To analyze the technical-operational and technical-economic indicators of motor vehicles, their systems and elements.

PLO 24. Apply mathematical and statistical methods for building and researching models of objects and processes of road transport, calculating their characteristics, forecasting and solving other complex problems of road transport.

PLO 25. Present the results of research and professional activity to specialists and non-specialists, argue their position.

PLO 26. Organize maintenance of vehicles according to the actual technical condition, taking into account operating conditions and diagnostic results.

PLO 27. Carry out technical diagnostics of vehicles, their systems and elements using modern equipment (in particular BOSCH).

PLO 28. Understand and exercise your rights and responsibilities as a member of society, be aware of the values of a free democratic society, the rule of law, and the rights and freedoms of man and citizen in Ukraine.

8 – Resource support for program implementation

Staff support	The training of bachelors is carried out by doctors of science, professors, candidates of science, associate professors, senior teachers, assistants who have sufficient experience in practical, scientific and pedagogical work.
Material and technical support	Training is carried out at the educational and laboratory base of the departments involved in the educational process of training bachelors in the specialty J8 – Motor vehicle transport, also with the use of modern BOSCH equipment of

	the department of motor vehicle transport systems engineering named after M.Ya. Govorushchenko.
Informational and educational and methodological support	The educational process is provided with textbooks, reference literature, methodological publications of the department and university teachers, which are located in the scientific and technical library of the university and the methodological office of the department of motor vehicle transport systems engineering. Electronic educational resources include: the educational site of the KhNAHU, the file archive of the KhNAHU and the websites of the departments, which contain basic information about educational activities under the OP. Wireless access to the Internet is provided on the territory of the university. Applicants have free access to international databases Scopus, WoS.
9 – Academic mobility	
National credit mobility	In accordance with the Law of Ukraine "On Higher Education" and the Regulation on the Organization of the Educational Process at the Kharkiv National Automobile and Highway University.
International credit mobility	Implementation of the educational program involves the possibility of: - conclusion of cooperation agreements between the University and higher education institutions of other countries; - participation of applicants in international conferences, seminars, etc.; - internship of applicants under academic mobility programs.
Education of foreign students of higher education	According to this educational program, training of foreign students of higher education in Ukrainian and English is provided.

2. LIST OF EDUCATIONAL PROGRAM COMPONENTS AND THEIR LOGICAL SEQUENCE

2.1. List of components of the educational program

The code	Components of the educational program (study subjects, course projects (works), practices, qualification work)	Credits	Final control form
1	2	3	4
Required components (RC) of the educational program			
Components of humanitarian and socio-economic training			
RC 01	History of Ukraine and Ukrainian Culture	3	Test
RC 02	Ukrainian Language (for professional purposes)	3	Exam
RC 03	Philosophy	3	Exam
RC 04	Foreign Language (for professional purposes)	7	Exam
RC 36	Fundamentals of national resistance	5	Test
That's all		21	
Components of natural science (fundamental) training			
RC 05	Physics	4	Exam
RC 06	Higher Mathematics	8	Exam
RC 07	Chemistry	4	Exam
RC 08	Computer information systems and technologies	3	Test
RC 09	Descriptive Geometry, Engineering and Computer Graphics	7	Exam
RC 10	Strength of Materials	6	Exam
RC 11	Ecology	3	Test
That's all		35	
Components of professional training			
RC 12	Labour Protection and a healthy lifestyle	3	Exam
RC 13	Economics of Enterprises	3	Exam
RC 14	Theoretical Mechanics	8	Exam
RC 15	Hydraulics, Hydraulic and Pneumatic Drives	4	Exam
RC 16	Technology of Construction Materials and Materials Science	6	Exam
RC 17	Theory of Mechanisms and Machines	6	Exam, CW
RC 18	Machine Elements	6	Exam, CW
RC 19	Fundamentals of Heat Engineering	4	Exam
RC 20	Motor Vehicles	11	Exam, CW
RC 21	Motor Vehicle Engines	7	Exam, CW
RC 22	Theory and Methods of Scientific Creativity	5	Test
RC 23	Motor Vehicle Operation	12	Exam, CW
RC 24	Fundamentals of Automotive Diagnostics	3	Exam
RC 25	Technological Equipment for Motor Vehicle Service and Repair	3	Test
RC 26	Fundamentals of Motor Transport Enterprise Design	3	Test, CP
RC 27	Operational materials	3	Test
RC 28	Electrical Engineering, Electronics and Microprocessors	6	Exam
RC 29	Interchangeability, Standardization and Engineering Measurements	4	Exam
RC 30	Introduction to Profession	3	Test
RC 31	Training Practice	3	Test *
RC 32	Production Design Practice	3	Test *

1	2	3	4
RC 33	Production technological practice	3	Test *
RC 34	Pre-diploma practice	3	Test *
RC 35	Performance of Qualifying Paper	12	Protection of Qualifying Paper
That's all		124	
The total volume of Required components:		180 credits	
Elective components (EC) of the educational program			
Components of humanitarian and socio-economic training			
EC 1	Elective discipline 1	3	Test
EC 2	Elective discipline 2	3	Test
EC 3	Elective discipline 3	3	Test
EC 4	Elective discipline 4	3	Test
That's all		12	
Components of natural science (fundamental) training			
EC 5	Elective discipline 5	3	Test
EC 6	Elective discipline 6	3	Test
EC 7	Elective discipline 7	3	Test
EC 8	Elective discipline 8	3	Test
That's all		12	
Components of professional training			
EC 9	Elective discipline 9	4	Test
EC 10	Elective discipline 10	4	Test
EC 11	Elective discipline 11	4	Test
EC 12	Elective discipline 12	4	Test
EC 13	Elective discipline 13	4	Test
EC 14	Elective discipline 14	4	Test
EC 15	Elective discipline 15	4	Test
EC 16	Elective discipline 16	4	Test
EC 17	Elective discipline 17	4	Test
That's all		36	
The total amount of Elective components:		60 credits	
GENERAL VOLUME OF THE EDUCATIONAL PROGRAM		240 credits	

Note: * – Protection of the practice report.

2. 2. The student can choose any discipline from the general university catalog. The university-wide catalog of optional disciplines is posted on the official website of the university at the link: <https://www.khadi.kharkov.ua/education/katalog-vibirkovikh-disciplin/katalog-vibirkovikh-disciplin-dlja-np-2026/bakalavr/> .

3. STRUCTURAL AND LOGICAL SCHEME OF THE EDUCATIONAL PROGRAM

Description of the logical sequence of studying the components of the educational program, presented in the form of a diagram (Fig. 1).

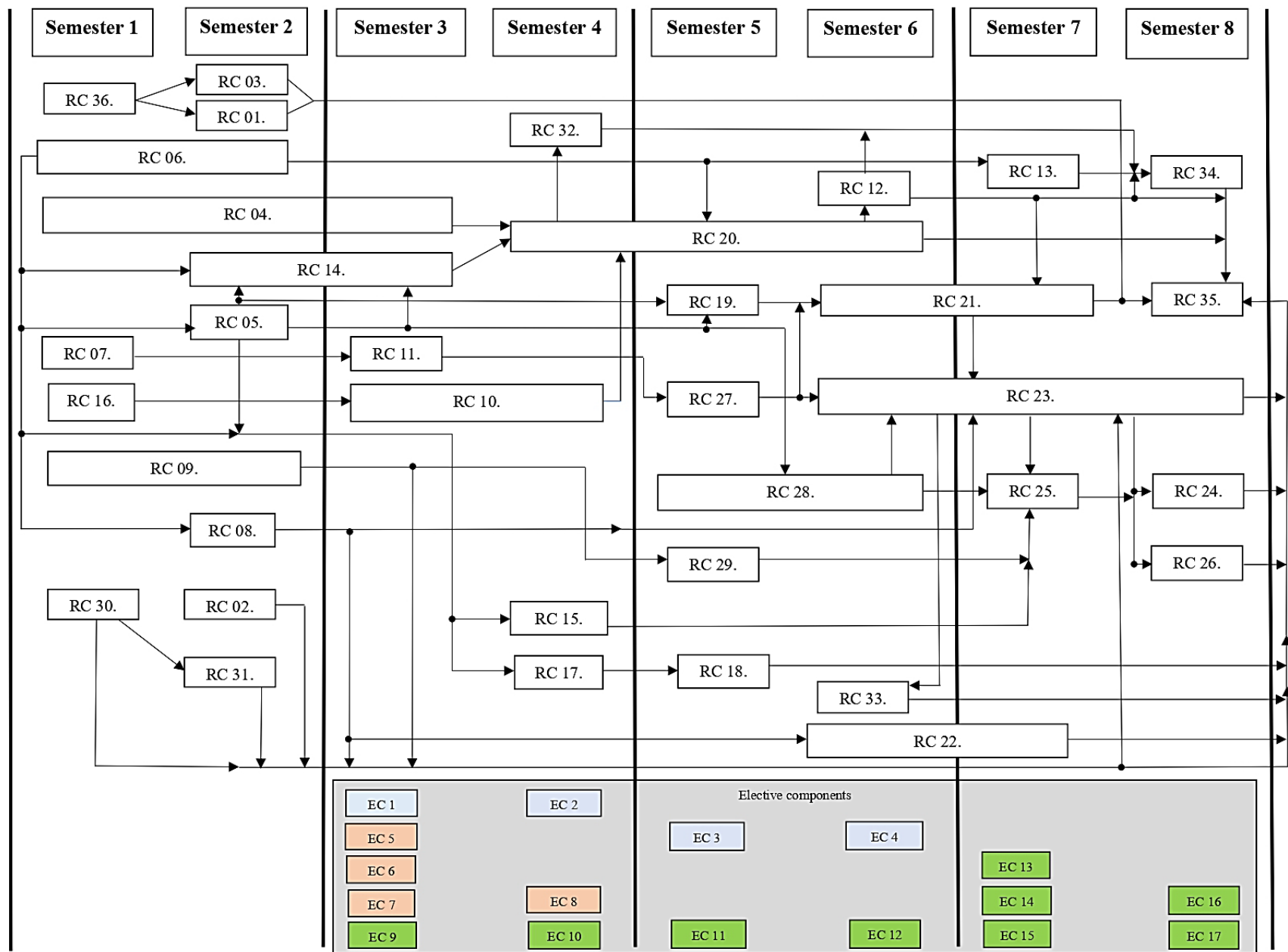


Fig. 1. Structural and logical scheme of studying the components of the educational program

4. FORM OF ATTESTATION OF HIGHER EDUCATION ACQUIRES

Forms of attestation of applicants of higher education	Attestation is carried out in the form of a unified state qualification exam and public defense of qualification work.
Requirements for qualifying work	The qualification work should involve the solution of complex specialized tasks and practical problems in the field of road transport in accordance with the specialization (demonstrate the author's ability to use the acquired competences and learning results, logically , on the basis of modern scientific methods, present his views on the research topic, draw reasonable conclusions and formulate specific proposals and recommendations regarding the solved problem, as well as identify the author's inclination to scientific or practical activity; objects of research can be phenomena of different nature, technological processes, technologies, types of activities within the framework of the formulated problem). The qualifying work must not contain academic plagiarism, fabrication, or falsification. The qualification work must be published on the official website of the institution of higher education or its structural division, or in the repository of the institution of higher education.
Requirements for the unified state qualification exam	The unified state qualification exam provides for the assessment of the achievement of learning outcomes defined by the standard and the educational program.

5. MATRIX OF CORRESPONDENCE OF SOFTWARE COMPETENCES TO THE COMPONENTS OF THE EDUCATIONAL PROGRAM

	RC 01	RC 02	RC 03	RC 04	RC 05	RC 06	RC 07	RC 08	RC 09	RC 10	RC 11	RC 12	RC 13	RC 14	RC 15	RC 16	RC 17	RC 18	RC 19	RC 20	RC 21	RC 22	RC 23	RC 24	RC 25	RC 26	RC 27	RC 28	RC 29	RC 30	RC 31	RC 32	RC 33	RC 34	RC 35	RC 36		
CG 1			+																																			
CG 2					+	+				+				+	+	+	+	+	+	+	+		+	+	+	+	+	+				+	+			+		
CG 3							+				+	+											+					+					+			+		
CG 4			+																													+	+					
CG 5		+																																		+		
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CG 15	+		+																																			
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6. MATRIX OF ENSURING PROGRAM LEARNING OUTCOMES BY EDUCATIONAL PROGRAM COMPONENTS

	RC 01	RC 02	RC 03	RC 04	RC 05	RC 06	RC 07	RC 08	RC 09	RC 10	RC 11	RC 12	RC 13	RC 14	RC 15	RC 16	RC 17	RC 18	RC 19	RC 20	RC 21	RC 22	RC 23	RC 24	RC 25	RC 26	RC 27	RC 28	RC 29	RC 30	RC 31	RC 32	RC 33	RC 34	RC 35	RC 36	
PLO 1					+	+	+	+	+					+	+		+	+	+	+	+		+					+	+						+		
PLO 2	+	+		+													+	+	+	+	+		+					+	+						+		
PLO 3					+			+	+				+	+	+		+	+	+	+	+					+	+								+	+	
PLO 4	+	+		+				+														+	+	+		+					+	+	+		+		
PLO 5													+										+		+			+	+		+	+			+		
PLO 6						+				+	+		+											+											+		
PLO 7			+		+																	+		+								+		+	+		
PLO 8									+		+												+	+			+				+	+		+	+	+	
PLO 9										+		+		+	+	+			+	+	+								+			+	+		+		
PLO 10					+	+								+	+	+				+	+	+		+				+	+						+		
PLO 11							+		+					+	+	+							+		+		+	+						+	+	+	
PLO 12		+									+	+			+								+			+	+							+	+	+	
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PLO 27																							+	+	+												
PLO 28																																					+

7. CORRESPONDENCE MATRIX OF PROGRAM LEARNING OUTCOMES (LEARNING OUTCOMES) AND COMPETENCES

Software the results teaching	General competences															Professional competences																
	CG 1	CG 2	CG 3	CG 4	CG 5	CG 6	CG 7	CG 8	CG 9	CG 10	CG 11	CG 12	CG 13	CG 14	CG 15	SC 1	SC 2	SC 3	SC 4	SC 5	SC 6	SC 7	SC 8	SC 9	SC 10	SC 11	SC 12	SC 13	SC 14	SC 15	SC 16	
PLO 1			+	+		+			+	+	+	+		+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
PLO 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
PLO 3						+			+	+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
PLO 4		+			+	+	+	+	+			+				+	+															
PLO 5	+	+		+			+	+		+	+		+	+									+	+								
PLO 6	+	+	+	+		+			+	+	+			+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PLO 7			+			+							+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PLO 8																+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PLO 9		+															+					+	+		+				+			
PLO 10		+				+											+	+								+			+	+	+	
PLO 11	+	+	+														+		+		+	+				+		+				
PLO 12				+	+											+	+			+	+						+					
PLO 13	+		+		+											+				+	+	+										
PLO 14									+							+			+		+	+						+				
PLO 15							+		+		+						+		+	+	+	+						+				
PLO 16	+	+	+													+							+									
PLO 17	+	+	+														+						+									
PLO 18	+	+	+	+		+								+		+	+					+			+							
PLO 19		+														+									+							
PLO 20		+		+		+								+			+	+							+		+	+		+		
PLO 21		+			+											+	+			+							+				+	
PLO 22		+			+											+	+			+							+					
PLO 23		+			+	+											+	+				+					+	+		+		
PLO 24		+				+								+				+					+					+	+			
PLO 25		+			+	+						+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
PLO 26																																+
PLO 27																																+
PLO 28													+																			