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

EDUCATIONAL AND PROFESSIONAL PROGRAM

Road traffic organization and safety

second (master's) level of higher education
Name of education level

in the specialization 275.03 " Transport technology (in road transport)"
Code and name of specialty

in the specialty 275 " Transport technology (by types)"
Code and name of specialty

fields of knowledge 27 "Transport"
Code and name of the field of knowledge

Qualification Master of Science in Transport Technology (in road transport)
qualification title

APPROVED BY
BY THE ACADEMIC COUNCIL OF KhNAHU
minutes No. 67/24 from "04" July 2024
Head of the Academic Council

_____ Viktor BOHOMOLOV
signature first name and surname

The educational programme enters into force from 01.09.2024
order No. 87 from "05" July 2024
Rector

_____ Viktor BOHOMOLOV
signature first name and surname

Kharkiv 2024

INTRODUCTION

1. Developed by the project team:

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Olena LEVCHENKO, Head of Dispatch Facility Monitoring and Management Center KP "KHARKIV-SIGNAL"

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2. Recommended by the Methodological Commission of the TSF Minutes No. 10 from 21.06.2024

3. Approved by the Methodological Council of KhNAHU Minutes No. 9 from 02.07.2024

4. Reviews and feedback from external stakeholders:

Viktor VOITOV, Head of the Department of Transport Technologies and Logistics, State Biotechnological University, Ph.D. Tech., Prof.

Sergiy DANETS, First deputy director of Kharkiv State Research and Forensic Science Center of the Ministry of Internal Affairs of Ukraine, Ph.D. Tech. Sci.

Viktor SUDAR, Director of the Kharkiv Motor Vehicle Vocational College

1. THE EDUCATIONAL PROGRAMME PROFILE

1 - General information	
Full name of the higher education institution and structural unit	Kharkiv National Automobile and Highway University Transport System Faculty Department of Traffic Management and Road Safety
Degree of higher education and qualification title (original script)	Master (MSc) Master of Science (MSc) in Transport Technology (in road transport)
Legal name of the educational professional programme	Road traffic organization and safety
Type of diploma and scope of the educational programme	Master's diploma, a one-year and three months full-time program, 90 ECTS
Accreditation certificate	Accreditation certificate of the EPP " Traffic management and safety" in the specialty 275 "Transport Technology (in road transport)" YD No. 21008505 valid until July 1, 2024 by the decision of the Accreditation Commission dated February 19, 2019, minutes No. 134 (Order of the Ministry of Education and Science of Ukraine dated 25.02.2019 No. 242)
Cycle/Level	NQL Ukraine - level 7, FQ-EHEA - second cycle, EQF-LLL - Level 7
Prerequisites	Bachelor's or Specialist's degree
Language(s) of instruction	State
Validity of educational Program	31.12.2025
The link for the website with a description of the educational programme	https://www.khadi.kharkov.ua/education/katalog-osvitnikh-program/27503-transportni-tekhnologiji-na-avtomobilnomu-transporti/
2 - Aim of the educational programme	

Ensuring the acquisition of theoretical knowledge and practical skills by higher education applicants in the area of study 27 "Transport", which will allow for employment and further successful solution of professional tasks and responsibilities of an applied nature, as well as conducting scientific research in the field of organization and safety of road traffic.

3 – Description of the educational programme	
Subject area (field of knowledge, speciality specialization (if any))	Area of study – 25 "Transport" Speciality – 275 "Transport Technology (by type)", specialisation – 275.03 Transport Technology (in road transport) Educational and professional program - "Traffic management and safety" **The objects of study are transport systems and technologies of** road transport; means and technologies of traffic management and ensuring its safety. **The objectives of the training** are to train specialists in the motor transport industry capable of solving complex problems in the field of motor transport systems and technologies within the framework of professional (scientific) activities using modern principles and methods of traffic management and ensuring its safety. **The theoretical content of the subject area is the** concept, strategies, principles of functioning of transport systems and their use for research and forecasting of the results of traffic functioning. **Methods, techniques and technologies –** general scientific and special methods for studying the regularities of functioning of transport systems; innovative methods, techniques and technologies of traffic management and its safety at different levels. **Tools and equipment –** computer and software, multimedia; specialized laboratory equipment and industrial samples of technical means of traffic control, devices and tools for monitoring traffic flows, software products for computer-aided design and traffic modeling.
Focus of the educational programme	Educational and professional. The structure of the program provides for mastering the conceptual foundations of research, development, design, organization, management of transport systems, solving urgent tasks and problems in the field of motor transport, in particular in terms of improving the efficiency and safety of road traffic.

Main focus of the study programme and specialisation	The programme focuses at mastering fundamental and practical knowledge in the field of traffic management and ensuring its safety. **Keywords: transport technologies, transport systems, road traffic, road** safety, traffic flow, transport system, road transport.
Programme specifics	The use of the principles of student-centered education, the preparation of a master's degree as a social personality capable of working at industrial enterprises, organizations and government agencies, the purpose of which, among other things, is to protect human life, create conditions for the safe and efficient functioning of road transport. The practice-oriented approach involves a combination of theoretical training on the basis of educational laboratories and specialized classrooms of KhNAHU with the acquisition of practical skills at enterprises and institutions of the city of Kharkiv, Kharkiv region and Ukraine of the relevant profile of activity in accordance with cooperation agreements, as well as in accordance with student academic mobility programs. Providing stimulation of individual and group activity of students in conducting research activities using the educational and laboratory base of the graduating department.
4 – Employability of graduates and further education	
Employability of graduates	Master is able to perform professional work, according to DK 003-2010: 1210.1 – Heads of enterprises, institutions and organizations; 1222.1 – Technical Manager; 1222.2 – Head (Head) of the Production Laboratory; 1223.1 – Chief Engineer (Transport); 1222.2 – Head of the Design Bureau; 1223.1 – Chief Engineer; 1223.2 – Head of Technical Control Department; 1226.1 – Chief dispatcher (transport); 1226.2 – Head of Department (Transport); 1226.2 – Head of Service (Transport); 1229.1 – Scientific Secretary; 1229.4 Head of Laboratory (Education); 1229.3 – Head of Department; 1229.4 – Head of Laboratory (Education); 1229.4 – Head of the Educational and Scientific Base; 1237.2 – Head of Research Laboratory; 1316 – Head of a small enterprise (transport); 1443 – Manager (manager) in road transport; 2145.1 – Researcher (mechanics); 2149.2 – Traffic Safety Engineer; 2145.2 – Design Engineer (Mechanics); 2145.2 – Process Engineer (Mechanics); 2149.2 – Research Engineer; 2310.2 – Assistant; 2310.2 – Teacher of a higher educational institution; 2320 – Teacher

	of a vocational educational institution; 2320 – Teacher of a vocational educational institution; 2351.1 – Researcher
Further education	It is possible to continue studying at the third (educational and scientific) level of higher education (Doctor of Philosophy).
5 - Teaching and Assessment	
Teaching & Learning	Student-centered learning, self-learning, a combination of lectures and practical classes with the solution of situational tasks and the use of case methods that develop communication and leadership skills and the ability to work in a team, performing research works, scientific and practical work, preparing a master's thesis.
Assessment	Current control: control of knowledge, skills and abilities of students at lectures, practical classes and during the performance of individual educational tasks, control, calculation, calculation, graphic and term papers. The final control is carried out in the form of exams, tests and public defense of the master's thesis.
6 — Programmatic Competencies	
Integral competence	The ability of a person to solve complex tasks and problems of the transport industry in the field of professional (scientific) activity in a certain type of transport systems and technologies and in the process of learning, which involves research and innovation and is characterized by uncertainty of conditions and requirements.
General competencies	GC 01. Ability to work in an international context.
	GC 02. Ability to motivate people and move towards a common goal.
	GC 03. Ability to search, process and analyse information from various sources.
	GC 04. Ability to communicate with representatives of other professional groups of different levels (experts from other fields of knowledge and economic activities)
	GC 05. Ability to develop and manage projects.
	GC 06. Ability to evaluate and ensure the quality of work performed.
	GC 07. Ability to conduct research at an appropriate level.
	GC 08. Ability to generate new ideas (creativity).
Special (professional) competencies	SC 01. Ability to research and manage the functioning of transport systems and technologies.
	SC 02. Ability to identify and apply promising directions for transport process modelling.
	SC 03. Ability to use modern technologies of freight

	forwarding.
	SC 04. Ability to manage supply chains and logistics centres.
	SC 05. Ability to manage freight transportation by type of transport.
	SC 06. Ability to manage passenger transportation by modes of transport.
	SC 07. Ability to manage traffic flows.
	SC 08. Ability to manage the reliability and efficiency of transport systems and technologies.
	SC 09. Ability to conduct an examination of traffic accidents by type of transport.
	SC 10. Ability to consider the impact of customs procedures in the development of transport technology.
	SC 11. Ability to use specialised software to solve complex problems in the field of transport systems and technologies.
	FC 12. Ability to model the movement of traffic and pedestrian flows using mathematical apparatus, theoretical and experimental research methods.
	FC 13. Ability to assess the quality and control the state of traffic at different stages of the road life cycle.
	FC 14. Ability to apply road safety management methods, analysis and control over the implementation of programs and activities at the state, regional and local levels.

7 – Training results

TR 01. Search for the necessary information in scientific and technical literature, databases, and other sources and analyse and objectively evaluate information in the field of transport systems and technologies and related interdisciplinary problems.

TR 02. To freely discuss issues of professional activity, projects and research in the field of transport systems and technologies orally and in writing in state and foreign languages.

TR 03. Make effective transport systems and technologies decisions, considering technical, social, economic and legal aspects, generate and compare alternatives, assess the necessary resources and limitations, and analyse risks.

TR 04 To convey knowledge, decisions and the basis of their adoption to specialists and non-specialists in an unambiguous form.

TR 05. To ensure the safety of people and the environment during professional activities and implementation of projects in the field of transport systems and technologies.

TR 06. Develop new and improve existing transport systems and technologies, determine development goals, existing limitations, performance criteria and areas of use.

TR 07. Develop and analyse graphic, mathematical and computer models of transport systems and technologies.

TR 08. Develop cargo and passenger transportation technologies by mode of transport based on research and relevant data. TR 09. Study the impact of customs procedures on the efficiency of transport technologies. TR 10. Develop and apply modern technologies of transport and forwarding services. TR 11. Analyse and evaluate the efficiency of supply chains and logistics centres, and calculate relevant indicators. TR 12. Manage complex technological and production processes in transport systems and technologies, including unpredictable ones requiring new strategic approaches. TR 13. Organise work of the personnel, and ensure their professional development and objective evaluation. TR 14. Use special software to analyse, develop and improve transport systems and technologies. **TR 15. To develop measures to improve the efficiency of traffic on the basis of analysis, modeling and forecasting of the state of traffic in sections of the street and road network.** **TR 16. To assess the state of accidents on the streets and roads, to analyze the circumstances, causes and conditions that contributed to the occurrence of road accidents.** **TR 17. Conduct road safety audits in sections of the transport network with the development of measures to reduce the risk of accidents.** **TR 18. Make effective decisions to improve road safety in dangerous road sections and places of concentration of accidents.**

8 - Resource support for programme implementation	
Academic staffing	Full-time scientific and pedagogical staff with scientific degrees and/or academic titles, as well as highly qualified experienced specialists (part-time) are involved in the implementation of the program. In order to increase the professional level of training in the disciplines taught, all scientific and pedagogical workers improve their qualifications at least once every five years and during this period they must obtain at least 6 ECTS credits.

Material and technical support	The implementation of the educational and professional program provides for the compliance of the material and technical support of the university with the requirements of the Licensing Conditions (Resolution of the Cabinet of Ministers of Ukraine No. 1187 dated 30.12.2015, current version dated 20.06.2021, basis - 365-2021-п "On approval of the Licensing conditions for the implementation of educational activities of educational institutions"). The buildings have classrooms for lectures, seminars, course design, group and individual consultations, independent work and premises for storage and preventive maintenance of educational equipment. Rooms for independent work are equipped with computer equipment with the ability to connect to the Internet. There is the necessary social infrastructure, the number of places in dormitories meets the requirements.
IT and teaching and learning materials	The official and educational websites of the university (www.khadi.kharkov.ua, https://dl.khadi.kharkov.ua/) contain information about educational programs, educational, scientific and educational activities, structural units, admission rules, the main news of the university and its departments, contacts. All users registered with KhNAHU have unlimited access to the Internet via Wi-Fi. The implementation of the educational and professional program involves: the availability of the necessary licensed specialized software for professionally oriented disciplines, textboCCs, lecture notes, methodological guidelines for practical (seminar) classes, term papers. With theapplicants, the OPP has free access to the electronic scientific databases "Scopus" and "Web of Science", as well as the information resources of the scientific library of KhNAHU (http://library.khadi.kharkov.ua/golovna/), which also provides the opportunity to work with electronic catalogs of periodicals in the specialty. You can work with databases from any computer connected to the local network of the university.
9 — Academic mobility	
National credit mobility	The implementation of the educational and professional program involves: the conclusion of cooperation agreements between KhNAHU and higher education institutions of Ukraine; participation of students and teachers in All-Ukrainian conferences and seminars.

International credit mobility	The implementation of the educational and professional program provides the opportunity to: students' participation in international conferences; research internship of students under the Erasmus+ program.
Teaching international students	The training of foreign students is carried out on general terms with additional language training. Training and supportin the process of training foreign students is carried out by the Faculty of education of foreign citizens.

2. LIST OF COMPONENTS OF THE EDUCATIONAL PROGRAMME AND THEIR LOGICAL ORDER

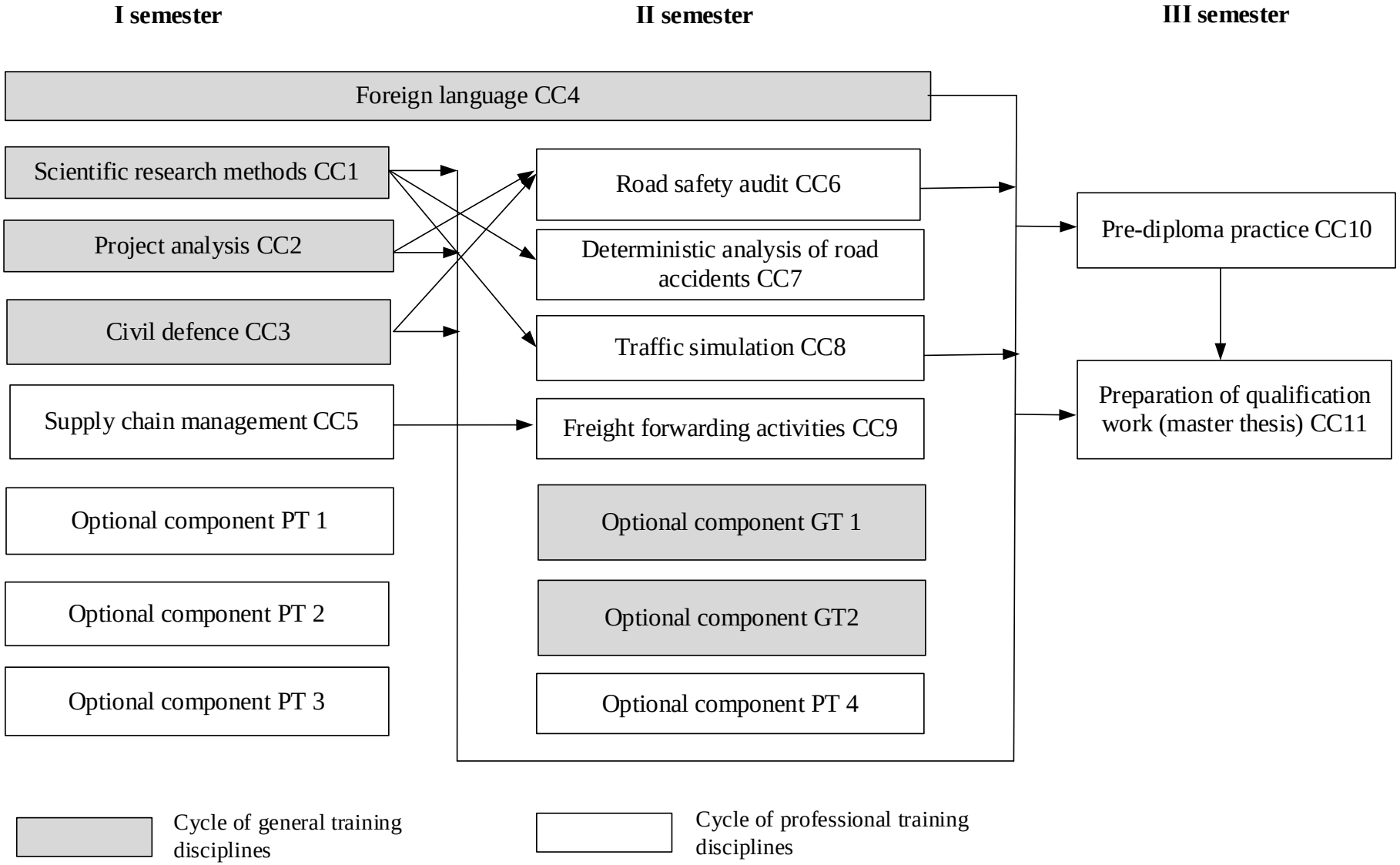
2.1 List of EPP components

Code EC	Components of the educational programme (academic disciplines, coursework, CGW, internships, qualification work)	Number of credits	Form of final control
Compulsory components of the EPP			
I. Cycle of general training disciplines			
CC1	Scientific research methods	4	exam CW
CC2	Project analysis	4	exam
CC3	Civil defence	3	credit test
CC4	Foreign language	4	credit test
II. Cycle of professional training disciplines			
CC5	Road safety audit	5	exam CW
CC6	Supply chain management	4	exam
CC7	Deterministic analysis of road accidents	4	exam
CC8	Traffic simulation	4	exam
CC9	Freight forwarding activities	4	exam
CC10	Pre-diploma practice	10	credit test (defence of the practice report)
CC11	Preparation of qualification work (master thesis)	20	final assessment
Total amount of compulsory components:		**66**	
Elective components (student's choice)			
I. Cycle of general training disciplines			
EC1	Optional component GT 1	4	credit test
EC2	Optional component GT 2	4	credit test
II. Cycle of professional training disciplines			
EC3	Optional component PT 1	4	credit test
EC4	Optional component PT 2	4	credit test
EC5	Optional component PT 3	4	credit test
EC6	Optional component PT 4	4	credit test
Total amount of elective components:		**24**	
TOTAL AMOUNT OF EDUCATIONAL PROGRAMME		**90**	

2.2 Selective components

The university-wide catalog of elective disciplines is posted on the official website of the university at the link https://www.khadi.kharkov.ua/education/katalog-vibirkovikh-disciplin/magistr/.

3. STRUCTURAL AND LOGICAL DIAGRAM OF THE EPP



4. FORM OF ASSESSMENT OF HIGHER EDUCATION STUDENTS

Forms of assessment of higher education students	Certification of applicants is carried out in the form of public defense of qualification work.
Requirements for qualification work	The applicant's qualification work involves solving a complex task or problem in the field of motor transport systems and technologies, which requires research and/or innovation and is characterized by uncertainty of conditions and requirements. The qualification work should not contain academic plagiarism, fabrication, falsification. The applicant's qualification work is published in the repository of KhNAHU. The defense of the qualification work takes place publicly (publicly) at a meeting of the commission for the certification of higher education applicants.

5. MATRIX OF CORRESPONDENCE OF PROGRAMME COMPETENCES TO THE EPP COMPONENTS

Code N/A	Program competencies																							
	Integral competence	General competencies								Special (professional) competencies														
		GC 01	GC 02	GC 03	GC 04	GC 05	GC 06	GC 07	GC 08	SC 01	SC 02	SC 03	SC 04	SC 05	SC 06	SC 07	SC 08	SC 09	SC 10	SC 11	SC 12	SC 13	SC 14
CC1	+			+	+			+	+	+	+									+	+		
CC2	+	+	+		+	+	+		+	+	+			+	+		+			+			+
CC3	+							+		+													
CC4	+	+		+	+																		
CC5	+		+				+		+	+		+	+						+				
CC6	+			+				+		+							+	+				+	+
CC7	+			+	+			+										+				+	
CC8	+			+				+		+						+				+	+	+	+
CC9	+	+	+			+	+					+	+	+			+		+				
CC10	+	+		+	+			+	+	+						+	+			+	+	+	+
CC11	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

6. MATRIX OF ENSURING PROGRAMME LEARNING OUTCOMES BY EDUCATIONAL PROGRAMME COMPONENTS

Code N/A	Programmatic Learning Outcomes																	
	TR 01	TR 02	TR 03	TR 04	TR 05	TR 06	TR 07	TR 08	TR 09	TR 10	TR 11	TR 12	TR 13	TR 14	TR 15	TR 16	TR 17	TR 18
CC1	+		+			+	+							+	+			
CC2			+	+							+	+	+			+	+	+
CC3					+								+					
CC4	+	+		+														
CC5			+			+					+							
CC6	+				+							+				+	+	+
CC7	+				+		+									+	+	
CC8			+			+	+							+	+	+		+
CC9								+	+	+			+					
CC10	+		+		+	+								+	+	+	+	+
CC11	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

7. MATRIX OF CORRESPONDENCE BETWEEN PROGRAMME LEARNING OUTCOMES AND COMPETENCES

Code N/A	Program competencies																							
	Integral Competence	General competencies								Professional competencies													
		GC 01	GC 02	GC 03	GC 04	GC 05	GC 06	GC 07	GC 08	SC 01	SC 02	SC 03	SC 04	SC 05	SC 06	SC 07	SC 08	SC 09	SC 10	SC 11	SC 12	SC 13	SC 14
TR 01	+	+		+	+																		
TR 02	+	+																					
TR 03	+								+													+	
TR 04	+	+			+																		
TR 05	+							+		+								+				+	+
TR 06	+								+	+	+										+		
TR 07	+									+	+										+		
TR 08	+													+	+					+			
TR 09	+													+	+				+	+			
TR 10	+											+								+			
TR 11	+						+			+	+		+										
TR 12	+		+			+	+						+	+	+	+	+			+			
TR 13	+		+			+	+																
TR 14	+																			+	+		
TR 15	+									+	+					+	+			+	+		
TR 16	+																	+				+	+
TR 17	+									+						+	+						+
TR 18	+																+					+	+

8. REQUIREMENTS FOR THE INTERNAL QUALITY ASSURANCE OF HIGHER EDUCATION

According to the Law of Ukraine "On Higher Education", the quality assurance system of educational activities and the quality of higher education (internal quality assurance system) at Kharkiv National Automobile and Highway University provides for the implementation of the following procedures and measures:

– determination of the principles and procedures for ensuring the quality of higher education;

– monitoring and periodic review of educational programs;

– annual evaluation of higher education applicants, scientific and pedagogical staff of the higher school and regular publication of the results of such assessments on the official website of the higher school, on information stands and in any other way;

– providing professional development of pedagogical, scientific and scientific-pedagogical workers;

– ensuring the availability of the necessary resources for the organization of the educational process, including the independent work of higher education applicants;

– ensuring the availability of information systems for effective management of the educational process;

– ensuring the publicity of information about educational programs, degrees of higher education and qualifications;

– ensuring compliance with academic integrity by employees of higher education institutions and higher education applicants, including the creation and maintenance of an effective system for the prevention and detection of academic plagiarism;

– other procedures and measures.