

Ministry of agriculture of the Republic of Kazakhstan  
Kazakh agrotechnical University named after S. Seifullin

**CLAIM**

**Director of department  
for academic Affairs**

**Serekpaev N. A.**

**2019 g.**



**PLAN**

**B065-Motor vehicles and  
M104/D104-Transport, transport equipment and technology  
2019/2025 g.**

Considered at the meeting  
academic Council of the faculty  
Protocol №2. of 02.09.2019 g.

Considered at the meeting  
departments "Transport equipment and technologies»  
Protocol № 1 of 27.08.2019 g.

**Nur Sultan, 2019 g.**

## Content

1	PASSPORT OF THE EDUCATION PROGRAM DEVELOPMENT PLAN	3
2	ANALYTICAL EPSUBSTANTIATION	4
2.1	Information about the educational program	4
2.2	Information about students	4
2.3	Internal conditions for EP development	5
2.4	Characteristics of the society	5
2.5	Information about implementing the educational program by the academic staff	6
2.6	Characteristics of the EP achievements	6
3	CHARACTERISTIC OF THE PROBLEMS EP DEVELOPMENT PLAN IS DIRECTED TO AND THE SUBSTANTIATION OF THEIR NECESSITY	7
4	MAIN GOALS AND OBJECTIVES OF THE EP DEVELOPMENT PLAN WITH INDICATION OF TIME AND STAGES OF ITS IMPLEMENTATION	7
5	ACTIVITIES FOR RISK INFLUENCE ON EP REDUCING	8
6	EP DEVELOPMENT PLAN	9
7	EP DEVELOPMENT PLAN IMPLEMENTATION MECHANISM	10
8	EVALUATION OF SOCIAL AND ECONOMIC EFFICIENCY OF EP PLAN DEVELOPMENT IMPLEMENTATION	10
9	EP GRADUATE MODEL	11

# 1. PASSPORT OF THE DEVELOPMENT PLAN OF THE EDUCATIONAL PROGRAM "TRANSPORT, TRANSPORT EQUIPMENT AND TECHNOLOGIES" FOR 2019/2024

1	Reasons for investigating a EP development plan	<p>1) Developed new programs in the direction of training B071/M071/D071-Engineering and engineering, educational programs for bachelor's, master's and doctoral studies « Transport, transport equipment and technology »</p> <p>2) Many years of experience in the educational activities of KATU in domestic and international practice, which is one of the traditional and innovative universities of Kazakhstan, the personnel and scientific potential of the department, faculty and university as a whole.</p> <p>3) The task of fulfilling the social order of the company for the development and formation of popular personnel in the labor market, owning modern vehicles, technologies, mechanization and automation of technological processes in the production, storage and processing of transported goods.</p>
2	The main designers of the EP development plan	The staff of the Department " <b>Transport equipment and technologies</b> ", employers, partner Universities and other stakeholders (taking into account the requests of real and potential stakeholders)
3	Duration for implementation of EP development plan	Whole period of training 2019 - 2024. (a short-term forecast up to 5 years deep is established by the foresight method)
4	Amount and sources of financing	-
5	Expected final results of the EP development plan implementation	<p>Obtaining of deep theoretical and practical knowledge and skills, assuming a clear orientation of students to successful professional activities, personal growth, satisfying the requirements of employers.</p> <p>To achieve a high level of quality of higher education that meets the needs of the labor market, the tasks of industrial and innovative development of the country, the individual and corresponds to the best world practices in the field of education</p>

## **2. ANALYTICAL SUBSTANTIATION OF THE EDUCATIONAL PROGRAM**

### **2.1 Information about the educational program**

The educational programs "Transport, transport equipment and technologies" at all levels of the bachelor-master-PhD doctor of profile and scientific-pedagogical direction are aimed at training highly qualified, competitive personnel, improving the quality of knowledge, building multi-level system of research activities in accordance with the urgent needs of modern education and science, harmoniously developed personality hundred in improving manufacturing processes of parts, tools, machinery, technological equipment and other industrial products.

OP developed in conjunction with professors and leading faculty of the Department in accordance with the order of KazATU. C. Seifullin (No. 964-N from 28.12.2018 g) and taking into account the recommendations of leading specialists of leading enterprises of the industrial sector, in accordance with NQF and professional standards agreed with Dublin descriptors and European frame of qualifications on the basis of the State obligatory standard of higher education, doctoral studies, approved by order of the Minister of education and science of Kazakhstan from October 31, 2018 (No. 604), classifier of specialties of higher and postgraduate education of the Republic of Kazakhstan, educational software and methodical documentation, individual work plans of doctoral students and other documents approved in accordance with the established procedure.

In order to ensure the individuality of the trajectory of training, students are offered two directions of implementation of the OP "Transport, transport equipment and technology", developed on the basis of the requirements of partner Universities and employers' requests.

The modular educational program, which is interdisciplinary and multidisciplinary in nature, which provides training at the junction of a number of areas of knowledge, is generally focused on training qualified competitive personnel for professional activities in all sectors and provides for broad basic professional training, which should be aimed at achieving fundamental knowledge of future specialists.

## 2.2 Information about students

The first set of new OP "Transport, transport equipment and technology" is planned for 2019-2020 academic year-110 people with a further increase in the number of applicants due to well-established career guidance and raising the level of prestige of specialties.

Information contingent of students in the specialty " Transport, transport equipment and technology "(old classifier) as of June 2019.

Specialty	2015-2016	2016-2017	2017-2018	2018-2019
5B071300	77	92	61	115
6M071300	5	12	6	17
Total	82	104	67	199

The analysis shows the demand for specialists in this field on the labor market and the prestige of the university as a whole.

## 2.3 Internal conditions for the EP development

For the development and implementation of the group of educational programs B065-Vehicles and M104/D104 – Transport, transport equipment and technology, educational programs for bachelor, master and doctoral "Transport, transport equipment and technology" at the Department created favorable and optimal conditions such as:

At the Department created favorable and optimal conditions such as:

- highly qualified teaching staff (about 65%)
- high material and technical equipment;;
- training in three languages (state, Russian and English);
- close cooperation with employers;
- modern educational and methodical base, with students ' access to information and analytical resources of the world scientific world.
- application of modern and interactive TSO
- introduction of dual training technology (part of the classes are held in the workplace);
- academic mobility (external and internal);
- high-quality professional infrastructure (educational resources);
- for laboratory and practical training there are training laboratories equipped with special equipment and materials.

The availability of high-quality professional infrastructure (educational resources) necessary for the implementation of OP is a guarantee of training of highly qualified specialists of modern times:

- Research and experimental campus of the University (1200 hectares)
- Kazakhstan-Belarus center for training and retraining of personnel;
- The Kazakh-Chinese center of agricultural mechanization;
- Kazakh-German center of precision agriculture " Glass»;
- Kazakh-American precision agriculture center " John Deere»;
- Laboratory of 3-D visualization and modeling;
- Pavilion of tractors, combines and agricultural machinery;

- Vehicle maintenance laboratory;
- GIS technology center;
- design Bureau;
- workshop with metal cutting and welding equipment;
- robotics laboratory;
- laboratory of fuel and lubricants;
- reading and computer rooms.
- educational workshop.

All classrooms are equipped with digitalization systems of the educational process.

#### **2.4 Characteristics of the society**

At the Department for students on the educational program, the base of practice is determined, agreements and contracts are concluded with enterprises for the passage of educational, industrial and pre-graduate practices. Currently, there are concluded and existing contracts – 51 PCs.

The main practice bases are:

Research and production center of grain economy. A. I. Baraeva

AO JSC " Bus Park No. 1»;

Too SP " Tulpar Talgo»;

AO JSC "Astana Zelenstroy»;

Management of administrative police of the DIA, Nur-Sultan;

AO KAMAZ-Engineering JSC»;

Too " Bus Park №3sk»;

Nur-Sultan Department of passenger transport and highways;

Too " Astana LRT»;

AO JSC " Passenger transportation»;

AO JSC " Nursultan Nazarbayev international airport»;

AO "Vagonservis" Almaty branch to repair passenger cars;

RSE on PHV "motor Farm Of the office of the President of the Republic of Kazakhstan", etc.

The practice of dual training is introduced into the learning process. For students of the 3rd year from the 2nd semester of 2012, visiting classes on the discipline "road Safety" are held on the basis of "Astana LRT"LLP.

Every year, representatives of partner universities, as well as foreign leading teachers of partner Universities are invited to give lectures. Development of academic mobility is working closely with Irkutsk state agrarian University, bhatu and the University of California, Davis (USA), University of applied Sciences osnabrück, Germany and Sophia chemical technology and metallurgy, Bulgaria and the search for a new partner universities in foreign countries, the countries of the customs Union and the CIS.

## **2.5 Information about implementing the educational program by the academic staff**

The degree of the Department "Transport equipment and technology" is 60%. OP maintains a highly qualified teaching staff of the University. The total number of teaching staff (PPP) on September 1, 2019 was 31 people (full-time-20), including with academic degrees 1 doctor of technical Sciences, 1 doctor of PhD, 10 candidates of science, 5 associate professors and 9 senior lecturer with extensive experience in teaching and experience in the workplace and 5 assistant (masters).

The teaching staff of the Department "Transport equipment and technologies" constantly improve their knowledge in the industry and undergo advanced training, including short-term refresher courses, visits to various seminars, internships in leading universities of Kazakhstan, far and near abroad, as well as in the relevant organizations of the industry.

## **2.6 Characteristics of the EP achievements**

Educational programs of the specialty "Transport equipment and technologies" in 2015 successfully passed the independent specialized accreditation in the accreditation body Independent Agency of accreditation and rating (hereinafter-NAAR). On April 17, 2015, by the decision of the Accreditation Council of the NAAR, educational programs of the specialty were accredited and awarded certificates for a full term - 5 years.

According to the results of the ranking of 2019. Educational programs "Transport, transport equipment and technology" in the national ranking of the NAAR occupy 5B071300 (bachelor) - 3rd place, 6M071300 (master) - 1st place, 6D071300 (doctoral) - 2nd place.

Throughout the entire period of the learning process, students of the specialty achieved results regarding residual knowledge in the corridor above the average. According to the results of Freight One over the years, there was no case of overcoming the threshold level of knowledge, and the overall result for the university was average.

## **3. CHARACTERISTIC OF THE PROBLEMS EP DEVELOPMENT PLAN IS DIRECTED TO AND THE SUBSTANTIATION OF THEIR NECESSITY**

Educational programs for bachelor's, master's and doctoral studies "Transport, transport technology and technology" at all levels bachelor-master-doctor PhD profile and scientific and pedagogical direction is designed to train personnel to carry out professional activities in the field of organization and effective use of transport technology in relation to existing technologies.

Trained personnel should have the skills to study the state of normative and technical support of the system, possess the skills of scientific and production, organizational and management and research work, able to conduct experimental

and theoretical research on modern problems in the field of transport technology and technology.

Trained personnel should increase the percentage of publication of scientific articles of their research in the field of creation and improvement of machinery and equipment, organization and effective use of transport equipment in domestic and foreign publications with a non-zero impact factor.

Data of publications of PPS of Department "Transport technics and technologies", depth of the analysis 3 years

<b>Publications</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
In scientific journals with an impact factor above zero	1	3	4
In scientific journals that are part of the CCSON and RSCI	6	8	12
In the collections of international and national scientific conferences and other publications	8	12	18

Trained staff must be fluent in English at least C1 Advance. Currently, the university has organized English courses such as DynEd and IELTS.

#### **4. MAIN GOALS AND OBJECTIVES OF THE EP DEVELOPMENT PLAN WITH INDICATION OF TIME AND STAGES OF ITS IMPLEMENTATION**

Educational program "Transport, transport equipment and technology" was created based on the request of employers. The main goal of the educational program and its development is to improve it in accordance with the vision, mission and strategy of the university aimed at training highly qualified, competitive personnel, improving the quality of knowledge, forming a multi-level system of research activity in accordance with the current needs of modern education and science, transforming it into an innovative university of world level.

The main objectives of the development plan are as follows:

<b>№</b>	<b>Name of the task</b>	<b>Development timeline</b>	<b>Stages of development</b>
1	Providing conditions for obtaining a full, high-quality professional education	The entire period of study 2020 - 2025	Development of measures to improve the quality of educational services for the development of professional skills of future specialists
2	Formation of basic professional competencies among future specialists	The entire period of study 2020 - 2025	Conducting an update of the content of the EP. Acquisition of professional competencies in the field of



			creation and improvement of creating and improving the mechanization of the AIC.
3	Ability to work with scientific and technical information, use domestic and foreign experience in professional activities, systematize and summarize the information received	The entire period of study 2020 - 2025	Development of measures for the analysis and processing of the results
4	Consultations of employers and scientists of the research institute in the selection of relevant and practically significant topics of thesis and master's and doctoral dissertations	Final course of Bachelor's degree studies and initial course of Master's degree studies	Consultations of employers and stakeholders

## 5. ACTIVITIES FOR RISK INFLUENCE ON EP REDUCING

During implementing of educational programs to reduce risks, the following measures are applied:

№	Name of possible risks	Actions to eliminate them
1	Lack of educational and methodological literature on professional disciplines in Kazakh and English languages	To plan the annual release by scientists and faculty of scientific and educational literature in Kazakh and English languages, according to the work curriculum of students
2	The traditional way of conducting studies	To improve and introduce innovative educational technologies and the provision of educational services at the level of international standards in the educational process
3	Outdated training and laboratory facilities	Creation of a modern educational, research and laboratory base on the basis of public-private partnership, the purchase of modern laboratory equipment
4	Shortage of scientific and pedagogical staff in connection	Preparation of highly qualified scientific personnel through master's and doctoral

	with retirement	programs (PhD) at the level of modern requirements
5	Small academic groups of students in Russian	The formation of the students contingent of this profile through vocational guidance and information and advertising, the creation of multilingual education groups

## 6. EP DEVELOPMENT PLAN

№	Name of events	Time line of implementation	Responsible	Expected results
1	Formation of a working group to develop educational programs for 2020-2025	November 2019 - April 2020 (further annually until 2025)	Head of department	Formed team of authors
2	Development of the goals and objectives of the educational program for 2020 - 2025	November 2019 - April 2020 (further annually until 2025)	Head of department, team of authors of EP	Developed goals and objectives of the educational program
3	Determination of the competencies of the specialist and disciplines of the specialty 2020-2025.	November 2019 - April 2020 (further annually until 2024)	Head of department, team of authors of EP	Developed competency positions
4	Formation and coordination of specialist competencies and disciplines with Dublin descriptors	November 2019 - April 2020 (further annually until 2025)	Head of department, team of authors of EP	Formed and agreed competencies
5	EP formation in accordance with professional standards	November 2019 - April 2020 (further annually until 2024)	Head of department, team of authors of EP	Formed educational program
6	Preparation of academic calendar and working curriculum of the specialty in accordance with the developed EP	April 2020 (further annually until 2025)	Head of department	Academic calendar and work curriculum

7	Consideration of the EP at the extended meeting of the Department with the employers participation	August-September 2020(further annually until 2025)	Stakeholders (faculty members, employers, etc.)	Discussion of the educational program
8	Consideration and approval of the EP at the academic Council of the faculty	May2020r. (further annually until 2025)	Board members of the Technical Faculty, employers	Approval of the educational program

## **7. EP DEVELOPMENT PLAN IMPLEMENTATION MECHANISM**

The implementation of the plan is carried out in accordance with the tasks:

- ensuring the conditions for obtaining high-quality professional education by introducing innovative educational technologies into the educational process at the level of world standards;
- based on the results of theoretical knowledge gained, the formation of basic professional competencies;
- the creation of prerequisites for independent search and research activities of the student in the framework of the experiment at all its stages;
- the formation of skills to work with scientific and technical information, systematize and summarize the information received;
- at the final stage, the selection of relevant and practically significant topics of diploma projects, master's and doctoral dissertations.

## **8. EVALUATION OF SOCIAL AND ECONOMIC EFFICIENCY OF EP PLAN DEVELOPMENT IMPLEMENTATION**

When implementing the plan for the development of the educational program, it is effective:

- the possibility of concluding agreements with universities of far and near abroad;
- the formation of the contingent of students;
- the creation of a modern educational, research and laboratory base;
- the possibility of organizing professional practices on the basis of leading enterprises in foreign countries;
- the preparation of highly qualified scientific personnel through the master's and doctoral programs (PhD) at the level of modern requirements.

## 9. EP GRADUATE MODEL

Educational programs "Transport, transport equipment and technologies" are focused on the following learning outcomes:

to be able to independently solve questions concerning:

- collection, analysis and interpretation of information (instrumental competence);
- preparation of design and estimate documentation, calculation of design development in the field of agriculture, technological maps for the production of transport products;
- development of ideas and critical argumentation (interpersonal competence); --
- self-motivation and self-management (system competence);
- ability to model, analyze, define and solve technological and operational problems of transport process management.

be capable of effective use in a variety of situations:

- your intuition (instrumental competence);
- their emotional understanding (interpersonal competence);
- ability to think and work flexibly, adapting to new changing circumstances (instrumental and interpersonal competence);
- Ability to improve and develop their intellectual and cultural level;
- possession of the culture of thinking, the ability to generalize, analyze, perceive information, setting goals and choosing ways to achieve it;
- ability to control and, where possible, prevent tension and stress associated with performance activities (interpersonal competencies);
- the ability to logically correct, reasoned and clear to build oral and written speech;
- to organize the work of performers in conducting research observations, experiments, supervision of the use of the requirements of normative and technical documents, as well as the correctness of their use.

be able to:

- plan the acquired knowledge to solve specific scientific, practical, information retrieval and methodological problems;
- to organize and conduct production, research and teaching (for master's and doctoral studies of scientific and pedagogical direction);
- to model and analyze the state of development of the transport process, to determine and solve planned technological and operational tasks for the management of the production process of agricultural crops;
- model and analyze production issues to obtain the potential yield of cultivated crops, conduct research to improve technological and technical solutions for the implementation of the transport system;
- have effective communication and social skills, including the ability to;
- preparation of feasibility studies and development of plans and programs of innovative projects;
- ability to use the normative legal documents regulating the organization and methodology of scientific research in the industry.

## **Competency model (portrait) of a graduate – bachelor student**

### *The professional field of the bachelor:*

- design and engineering organizations, machine-technological stations (MTS), equipment for maintenance and repair of technological machines, social and entrepreneurial complexes (SEC), processing and supplying enterprises and plants, organizations of technical service of transport equipment, fleets, district, regional and Republican bodies of management of agriculture (civil service).

### *General education competences*

- providing social and humanitarian education based on knowledge of the laws of social and economic development of society, the history of Kazakhstan, modern information technologies with the introduction of elements of Industry 4.0, the state language, foreign and Russian languages as means of international communication;

- understand the content of any information, Express thoughts, feelings, opinions in written and oral forms (listening, speaking, reading and writing);

- fluent multilingual oral, written and communication skills;

- ability to communicate fluently with a second language;

- ability to use communicative communication in different situations;

- basics of academic writing in the native language;

- basic mathematical thinking at the communication level-the ability to solve situational problems on the basis of the mathematical apparatus of algebra and the principles of mathematical analysis.

- know the traditions and culture of the peoples of Kazakhstan;

- be aware of the installation of tolerant behavior of the individual and the prevention of domestic racism, xenophobia, extremism;

- possess high spiritual qualities.

### *Core competencies*

- providing in-depth knowledge of natural-scientific, General technical and economic nature as the Foundation of professional education;

- in matters of labor legislation, norms and rules of labor protection and environmental safety, industrial sanitation and fire protection, the use of legislative and regulatory acts of the Republic of Kazakhstan acting in agriculture;

- in the application of new energy and resource-saving technologies in the field of mechanization, electrification of agriculture and processing enterprises;

- in management of agricultural machinery, adjustment of the technological equipment of the enterprises on production and processing of production of branch and agrotechnical service;

- in the application of computer technology in the development of projects of agricultural enterprises and service centers;

- in the organization of complex mechanization in agriculture and processing enterprises

### Professional competence

- providing in-depth knowledge of natural science, General technical and economic nature as the Foundation of professional education;
- in matters of labor legislation, norms and rules of labor protection and environmental safety, industrial sanitation and fire protection, the use of legislative and regulatory acts of the Republic of Kazakhstan, acting in agriculture and transport;
- in the application of new energy and resource-saving technologies in the field of mechanization, electrification of agriculture and transport and processing enterprises;
- in management of transport equipment, adjustment of the technological equipment of the enterprises on production and processing of production of branch and technical service;
- in the application of computer technology in the development of projects of transport enterprises and service centers;
- in the organization of complex mechanization in agriculture and transport and processing enterprises.

### Professional competence:

- providing in-depth theoretical knowledge and practical experience in the use of transport technology in relation to existing technologies;
- work on the preparation of technical documentation and established reporting on approved forms;
- conducting training and instruction on safety, labor protection and environment;
- carry out maintenance and repair of machinery and equipment using the latest methods and means of diagnosis, technical and technological modernization of transport production;
- organize work in the complex mechanization of crop and livestock enterprises and the use of new energy and resource saving technologies;
- assess the economic and social conditions of entrepreneurial activity and develop business plans for the creation and development of new organizations in the areas of activity;
- to design organizational structure, to carry out distribution of powers and responsibility on the basis of their delegation;
- participate in the development of human resources management strategy of organizations, plan and implement activities aimed at its implementation;
- analyze and calculate in the development of design and estimate documentation for the construction of technical service enterprises, in scientific research and design development of working bodies and machine components, drawing up technological maps for the production, storage and processing of agricultural products.

## **Competency model (portrait) of graduate – master’s degree student**

Professional sphere of the master’s degree student (scientific-pedagogical and profile areas):

- research activities in experimental research and design organizations, centers, institutes;
- production activity in transport, agricultural and processing enterprises and organizations, complexes, corporations;
- engineering and management activities in design, consulting, engineering centers, local and national bodies of transport management.

### General educational competencies

The master of the profile direction after mastering the educational program should:

- fluent in a foreign language as a means of business and professional communication;
- apply the necessary psychological theories and techniques to the study of man as a subject of activity and cognition, solve the problems of communication and correctly use the knowledge of psychology for successful management activities;
- know and be able to apply managerial theories to solving specific production situations;
- independently develop and apply methods and means of cognition, training and self-control to acquire new knowledge and skills;

### Basic competencies

- choose analytical and numerical methods when designing machinery and equipment for agricultural and processing industries;
- have deep theoretical knowledge and practical experience, fundamentals of engineering knowledge in the field of technical and energy support of high-precision technologies of transport production;
- ability and readiness to organize high-performance use and reliable operation of transport equipment and technological equipment for the production, storage, transportation and primary processing of crop and livestock products at large agricultural enterprises;

### Professional competence

- to know and understand the goals and objectives of production and technological, organizational and managerial activities in the field of engineering systems development in the transport sector.
- possess the skills of research activities and solutions of standard scientific problems, implementation of educational and pedagogical activities and willingness to apply engineering knowledge of modern research methods.
- ability and willingness to apply knowledge about modern research methods and willingness to organize independent and collective research work, to search for innovative solutions in the engineering and technical sphere of agriculture.

- development of research programs in the system of transport problems, search, collection, processing, analysis and systematization of information on the topic of research; development of methods and tools for research and analysis of their results; preparation of reviews, reports and scientific publications.

### **Competency model (portrait) of a PhD graduate**

#### Professional area of PhD (scientific-pedagogical and specialized areas):

- research work;
- management activities;
- production and technological activities;
- information and design activities.
- Organization and management of services of production enterprises;
- management activities in transport organizations of various forms of ownership, local and national bodies of education, transport management.

#### General educational competencies

- own the methodology of a systematic approach to organization, modern approaches to management and analytical methods of management, methods of diagnosis, analysis and problem solving, as well as methods of decision making and their implementation in practice;

- to competently solve practical problems of management and bring these decisions to life, be prepared for the implementation of management functions and be able to solve professional problems in the interests of the organization as a whole;

- possess the knowledge, skills and abilities necessary to occupy an appropriate managerial position and based on a deep understanding of the characteristics of a market economy and its capabilities, functions and economic role of the state, understanding of environmental problems, awareness of the social responsibility of business and adherence to civilized ethical standards of its conduct:

- be able to assess the current problems and prospects of socio-economic development of Kazakhstan, understand the current trends in the development of the world economy and globalization, navigate the issues of international competition.

#### Basic competencies

- possess basic knowledge to conduct independent scientific research, characterized by academic integrity, on the basis of modern scientific theories and methods of analysis, strive for professional and personal growth;

- have deep theoretical knowledge and practical experience, fundamentals of engineering knowledge in the field of engineering systems development, mechanization of agricultural production;



- to know and understand the goals and objectives of production and technological, organizational and managerial activities in the field of engineering systems development and the basics of technological production, nanobiotechnology and molecular modeling.

### Professional competencies

#### Organizational and technological activities:

- development of design, technological, design and estimate documentation for the creation and repair of transport equipment;
- organization of work of the team of performers, taking into account different opinions and management decisions;
- compromise solutions taking into account different requirements (cost, quality, deadlines and safety) in different types of planning and determination of optimal solutions;
- accounting for different types of costs in order to ensure the production of quality transport products;

#### Production and management activities:

- willingness to conduct a scientific study characterized by academic integrity, based on modern scientific theories and methods of analysis;
- quality control of technological processes, materials and finished products;
- selection and effective use of materials, equipment and other means for the implementation of production processes;
- metrological verification of measuring instruments for product quality indicators;
- the ability to critically analyze and evaluate modern scientific achievements, generate new ideas in solving research and practical problems;
- Organization and management of services, enterprises related to the operation and repair of transport equipment and equipment.

#### Project Activities:

- determination of the goals and objectives of the project, taking various factors into account when building the structure of their relationships and identifying priority areas for solving problems;
- development and analysis of solutions to the problems of forecasting consequences, planning and implementation of projects;
- development of transport machinery and equipment projects taking into account technological, design, aesthetic, economic and other parameters.