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MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION
Federal State Autonomous Educational Institution
Higher Education
"NORTH CAUCASUS FEDERAL UNIVERSITY"

APPROVED BY
Acting Director of the Institute
Advanced Engineering
Cand. Tech. Sci., Associate Professor
A.A. Porokhnya

FUND OF ASSESSMENT TOOLS
"Pre-graduation practice"

Field of study	11.03.02 Infocommunication Technologies and Communication Systems
Profile	Intelligent Data Processing in Infocommunication Systems and Networks
Year of start of training	2026
Form of study	Full-time
Implemented in a semester	8

Introduction

1. Purpose: FAT is designed to objectively assess the level of competence formation.
2. The fund of assessment tools is an appendix to the program of industrial pre-diploma practice.
3. Developer Samus M.V., Associate Professor of the Department of Digital Robotic Systems of Electronics.
4. An examination of the FOC was carried out.
Members of the expert group:
Chairman: Azarov I.V. Acting Director of the Department, Digital Robotic Systems of Electronics.
Members of the expert group:
Gaychuk D.V. - Associate Professor of the Department of Digital Robotic Systems of Electronics
Melnikov S.V. - Associate Professor of the Department of Digital Robotic Systems of Electronics

Representative of the employer Mironov V.A., General Director of Orintex LLC

Expert opinion: The FAT for the discipline allows you to assess the level of competence formation. Start approbation.

« » 2026

5. The validity period of the FAT is determined by the period of implementation of the educational program.

1. Description of indicators and assessment criteria at various stages of their formation, description of assessment scales

Levels of competence formation(s), indicator(s)	Levels of competence formation			
	The minimum level has not been reached (Unsatisfactory) 2 points	Minimum level (satisfactory) 3 points	Intermediate level (good) 4 points	High level (excellent) 5 points
Competency: UK-1				
ID-1 ^{UK-1} identifies a problem situation, carries out its multifactorial analysis and diagnosis based on a systematic approach.	With difficulty identifies a problem situation, is not able to carry out its multivariate analysis and diagnosis based on a systematic approach.	In the process of identifying a problem situation and carrying out its multivariate analysis and diagnosis, he makes mistakes and inaccuracies.	In the process of identifying a problem situation and carrying out its multivariate analysis and diagnosis, he makes mistakes and inaccuracies, which he corrects independently.	Confidently identifies a problem situation and carries out its multivariate analysis and diagnosis based on a systematic approach.
ID-2 ^{UK-1} searches, selects and systematizes information to determine alternative options for strategic solutions in a problem situation.	Has difficulty searching, selecting and systematizing information to determine alternative options for strategic solutions in a problem situation.	Searching, selecting and systematizing information to determine alternative options for strategic solutions in a problem situation, makes mistakes and inaccuracies.	Searching, selecting and systematizing information to determine alternative options for strategic solutions in a problem situation, he makes mistakes and inaccuracies, which he corrects independently.	Confidently searches, selects and systematizes information to determine alternative options for strategic solutions in a problem situation.
ID-3 ^{UK-1} determines and evaluates the risks of possible solutions to a problem situation, chooses the best option for its solution.	With difficulty identifies and assesses the risks of possible solutions to a problem situation, chooses the best option for its solution.	Identifying and assessing the risks of possible solutions to a problem situation, he makes mistakes and inaccuracies.	Identifying and assessing the risks of possible solutions to a problem situation, he makes mistakes and inaccuracies, which he corrects independently.	Confidently identifies and assesses the risks of possible solutions to a problem situation, chooses the best option for its solution.
Competency: UK-2				
ID-1 ^{UK-2} formulates the goal of the project, defines a set of interrelated tasks that ensure its achievement and determines the expected results of solving the tasks	Has difficulty formulating the goal of the project, determines a set of interrelated tasks that ensure its achievement and is not able to determine the expected results of solving problems.	In the process of formulating the goal of the project and determining a set of interrelated tasks that ensure its achievement, he makes mistakes and inaccuracies.	In the process of formulating the goal of the project and determining a set of interrelated tasks that ensure its achievement, he makes mistakes and inaccuracies, which he corrects on his own.	Confidently formulates the goal of the project, determines a set of interrelated tasks that ensure its achievement and determines the expected results of solving problems.

ID-2 ^{UK-2} develops an action plan to solve the tasks of the project, choosing the best way to solve them, based on the current legal norms and available resources and restrictions.	Is unable to develop an action plan to solve the tasks of the project and choose the best way to solve them, based on the current legal norms and available resources and constraints.	In the process of developing an action plan to solve the project problems and choosing the best way to solve them, he makes mistakes and inaccuracies.	In the process of developing an action plan to solve the problems of the project and choosing the best way to solve them, he makes mistakes and inaccuracies, which he corrects on his own.	Confidently develops an action plan to solve the tasks of the project, choosing the best way to solve them, based on the current legal regulations and available resources and constraints.
ID-3 ^{UK-2} ensures the implementation of the project in accordance with the established goals, deadlines and costs, based on the current legal norms, available resources and restrictions, including the use of digital tools.	Is unable to ensure that the project is delivered in accordance with the set goals, deadlines and costs, based on current legal regulations, available resources and constraints, including the use of digital tools.	In the process of implementing the project in accordance with the established goals, deadlines and costs, based on the current legal regulations, available resources and limitations, including the use of digital tools, makes errors and inaccuracies.	In the process of implementing the project in accordance with the established goals, deadlines and costs, based on the current legal regulations, available resources and restrictions, including the use of digital tools, makes errors and inaccuracies, which he corrects independently.	Confidently ensures the implementation of the project in accordance with the established goals, deadlines and costs, based on current legal regulations, available resources and constraints, including the use of digital tools.
Competence: UK-3				
ID-1 ^{UK-3} participates in interpersonal and group interaction, using an inclusive approach, effective communication, methods of team building and team interaction when working together within the framework of the task.	Is unable to engage in interpersonal and group interactions using an inclusive approach, effective communication, team-building and teamwork together within the framework of the task.	Participating in interpersonal and group interaction, using an inclusive approach, effective communication, methods of team building and team interaction when working together within the framework of the task, makes mistakes and inaccuracies.	Participating in interpersonal and group interaction, using an inclusive approach, effective communication, methods of team building and team interaction when working together within the framework of the task, he makes mistakes and inaccuracies, which he corrects on his own.	Confidently participates in interpersonal and group interactions, using an inclusive approach, effective communication, team-building and teamwork methods when working together within the framework of the task.
ID-2 ^{UK-3} ensures the work of the team to obtain optimal results of joint work, taking into account the individual capabilities of its members, the use of the methodology for achieving success, methods, information	Is unable to support the work of the team to achieve optimal collaboration results, taking into account the individual capabilities of its members.	Ensuring the work of the team to obtain optimal results of joint work, taking into account the individual capabilities of its members and using methodologies for	Ensuring the work of the team to obtain optimal results of joint work, taking into account the individual capabilities of its members and using methodologies for	Confidently ensures the work of the team to obtain optimal results of joint work, taking into account the individual capabilities of its members, the use of methodology for achieving success,

technologies and foresight technologies.		achieving success, methods, information technologies and foresight technologies, makes mistakes and inaccuracies.	achieving success, methods, information technologies and foresight technologies, he makes mistakes and inaccuracies, which he corrects independently.	methods, information technologies and foresight technologies.
ID-3 UK-3 ensures the fulfillment of tasks based on monitoring teamwork and timely response to significant deviations	Is unable to ensure that tasks are met based on teamwork monitoring and timely response to significant deviations.	In the process of ensuring the fulfillment of tasks based on monitoring teamwork and timely response to significant deviations, he makes errors and inaccuracies.	In the process of ensuring the fulfillment of tasks based on monitoring teamwork and timely response to significant deviations, he makes mistakes and inaccuracies, which he corrects independently.	Confidently ensures the implementation of tasks based on monitoring teamwork and timely response to significant deviations

Competency: UK-6

ID-1 UK-6 sets personal and professional goals in accordance with the level of its resources and priorities of action, for successful development in the chosen field of professional activity.	Finds it difficult to set personal and professional goals in accordance with the level of their resources and priorities for action, for successful development in the chosen field of professional activity.	Setting personal and professional goals in accordance with the level of his resources and priorities of actions, for successful development in the chosen field of professional activity, he makes mistakes and inaccuracies.	Setting personal and professional goals in accordance with the level of his resources and priorities for action, for successful development in the chosen field of professional activity, he makes mistakes and inaccuracies, which he corrects independently.	Confidently sets personal and professional goals in accordance with the level of his resources and priorities for action, for successful development in the chosen field of professional activity.
ID-2 UK-6 implements and adjusts the strategy of personal and professional development, taking into account the conditions, means, personal capabilities, stages of career growth, the time perspective of the development of activities and the	With difficulty implements and adjusts the strategy of personal and professional development, taking into account the conditions, means, personal capabilities, stages of career growth, the time perspective of the development of activities and the	In the process of implementing and adjusting the strategy of personal and professional development, taking into account the conditions, means, personal capabilities, stages of career growth, time perspective for the development of	In the process of implementing and adjusting the strategy of personal and professional development, taking into account the conditions, means, personal capabilities, stages of career growth, the time perspective of the development of	Confidently implements and adjusts the strategy of personal and professional development, taking into account the conditions, means, personal capabilities, stages of career growth, the time perspective of the development of activities and the

requirements of the labor market.	requirements of the labor market.	activities and the requirements of the labor market, makes mistakes and inaccuracies.	activities and the requirements of the labor market, he makes mistakes and inaccuracies, which he corrects independently.	requirements of the labor market.
ID-3 ^{UK-6} critically evaluates the effectiveness of the use of time and other resources in solving tasks in the chosen field of professional activity.	Is not able to critically assess the effectiveness of the use of time and other resources in solving tasks in the chosen field of professional activity.	Assessing the effectiveness of the use of time and other resources in solving tasks in the chosen field of professional activity, he makes mistakes and inaccuracies.	Assessing the effectiveness of the use of time and other resources in solving tasks in the chosen field of professional activity, he makes mistakes and inaccuracies, which he corrects independently.	Confidently evaluates the effectiveness of the use of time and other resources when solving tasks in the chosen field of professional activity.
Competency: UK-7				
ID-1 ^{UK-7} knows the basics of physical education, health-saving technologies to ensure full-fledged social and professional activities, taking into account the physiological characteristics of the body and living conditions	Unable to complete tasks related to this competency achievement indicator.	Makes mistakes in the use of health-saving technologies to ensure full-fledged social and professional activities, taking into account the physiological characteristics of the body and living conditions.	He mainly uses health-saving technologies to ensure full-fledged social and professional activities, taking into account the physiological characteristics of the body and living conditions.	Fully uses health-saving technologies to ensure full-fledged social and professional activities, taking into account the physiological characteristics of the body and living conditions.
ID-2 ^{UK-7} plans his working and free time for the optimal combination of physical and mental load and ensuring efficiency in professional activities.	Unable to complete tasks related to this competency achievement indicator.	Makes mistakes in planning his work and free time for the optimal combination of physical and mental load and ensuring efficiency in professional activities.	Sufficiently plans his working and free time for the optimal combination of physical and mental load and ensuring efficiency in professional activities.	Fully plans his working and free time for the optimal combination of physical and mental load and ensuring efficiency in professional activities.
ID-3 ^{UK-7} maintains the proper level of physical fitness to ensure full-fledged social and professional activities and observes the norms of a healthy lifestyle.	Unable to complete tasks related to this competency achievement indicator.	Makes mistakes in maintaining the proper level of physical fitness to ensure full-fledged social and professional activities and in observing the norms of a healthy lifestyle.	Sufficiently maintains the proper level of physical fitness to ensure full social and professional activities and observes the norms of a healthy lifestyle.	Fully maintains the proper level of physical fitness to ensure full-fledged social and professional activities and observes the norms of a healthy lifestyle.
Competence: UK-8				

ID-2UK-8 assesses the probability of potential danger in everyday life and professional activities and takes measures to prevent it.	Has difficulty assessing the likelihood of potential danger in everyday life and professional activities and takes measures to prevent it.	In the process of assessing the probability of potential danger in everyday life and professional activities and taking measures to prevent it, he makes errors and inaccuracies.	In the process of assessing the probability of potential danger in everyday life and professional activities and taking measures to prevent it, he/she makes mistakes and inaccuracies, which he/she corrects independently.	Confidently assesses the likelihood of potential danger in everyday life and professional activities and takes measures to prevent it
ID-3 ^{UK-8} applies the basic methods of protection in the event of a threat and the occurrence of emergencies and military conflicts in everyday life and professional activities.	Is not able to apply the basic methods of protection in the threat and occurrence of emergencies and military conflicts in everyday life and professional activities	Applying the basic methods of protection in the threat and occurrence of emergencies and military conflicts in everyday life and professional activities, he makes mistakes and inaccuracies.	Applying the basic methods of protection in the threat and occurrence of emergencies and military conflicts in everyday life and professional activities, he makes mistakes and inaccuracies, which he corrects independently.	Confidently applies the basic methods of protection in the threat and occurrence of emergencies and military conflicts in everyday life and professional activities.
Competency: UK-9				
ID-1 ^{UK-9} understands the basic principles of the functioning of the economy and economic development, the goals and forms of state participation in the economy.	Does not understand the basic principles of the functioning of the economy and economic development, the goals and forms of state participation in the economy.	Using the basic principles of the functioning of the economy and economic development, he makes mistakes and inaccuracies.	Using the basic principles of the functioning of the economy and economic development, he makes mistakes and inaccuracies, which he corrects on his own.	It confidently uses the basic principles of the functioning of the economy and economic development, the goals and forms of state participation in the economy.
ID-2 ^{UK-9} applies personal economic and financial planning techniques to achieve current and long-term financial goals.	Has difficulty applying personal economic and financial planning techniques to achieve current and long-term financial goals.	Applying the methods of personal economic and financial planning to achieve current and long-term financial goals, he makes mistakes and inaccuracies.	Applying the methods of personal economic and financial planning to achieve current and long-term financial goals, he makes mistakes and inaccuracies, which he corrects on his own.	Confidently applies personal economic and financial planning techniques to achieve current and long-term financial goals.
ID-3 ^{UK-9} uses financial instruments to manage personal finances, controls its own	Is not able to use financial instruments to manage personal finances, and	Using financial instruments to manage personal finances and controlling his own	Using financial instruments to manage personal finances and controlling his own	Confidently uses financial instruments to manage personal finances and

economic and financial risks.	control their own economic and financial risks.	economic and financial risks, he makes mistakes and inaccuracies.	economic and financial risks, he makes mistakes and inaccuracies, which he corrects on his own.	controls his own economic and financial risks.
Competence: UK-10				
ID-1 ^{UK-10} is familiar with the current legal norms that ensure the fight against corruption in various areas of life, with ways to prevent corruption and form an intolerant attitude towards it	Unable to complete tasks related to this competency achievement indicator.	Makes mistakes in the current legal norms that ensure the fight against corruption in various areas of life, in the ways of preventing corruption and forming an intolerant attitude towards it.	He is sufficiently familiar with the current legal norms that ensure the fight against corruption in various areas of life, with ways to prevent corruption and form an intolerant attitude towards it.	He is fully familiar with the current legal norms that ensure the fight against corruption in various areas of life, with ways to prevent corruption and form an intolerant attitude towards it.
ID-2 ^{UK-10} prevents corruption risks in professional activities; excludes interference in one's professional activities in cases of inducement to corruption offenses	Unable to complete tasks related to this competency achievement indicator.	Makes mistakes in the prevention of corruption risks in professional activities; in the exclusion of interference in his/her professional activities in cases of inducement to corruption offenses.	Sufficiently prevents corruption risks in professional activities; excludes interference in their professional activities in cases of inducement to corruption offenses.	Fully prevents corruption risks in professional activities; excludes interference in his/her professional activities in cases of inducement to corruption offenses.
ID-3 ^{UK-10} interacts in society on the basis of intolerance of corruption	Unable to complete tasks related to this competency achievement indicator.	Makes mistakes in interaction in society based on intolerance of corruption.	It almost unmistakably interacts in society on the basis of an intolerant attitude to corruption.	He fully interacts in society on the basis of an intolerant attitude to corruption.
Competency: PC-1				
ID-1 ^{PK-1} understands and is guided by the principles of construction and operation of communication networks, including their constituent subsystems, and signaling protocols, standards for the quality of data, voice and video transmission used in communication networks, in the	Does not understand and is not guided by the principles of construction and operation of communication networks, including their constituent subsystems, and signaling protocols, standards for the quality of data, voice and video transmission used	Using the concepts of the principles of construction and operation of communication networks, including their constituent subsystems, and signaling protocols, standards for the quality of data, voice and video transmission used in communication networks, makes	Using the concepts of the principles of construction and operation of communication networks, including their constituent subsystems, and signaling protocols, standards for the quality of data, voice and video transmission used in communication networks, he	Confidently uses the concepts of the principles of construction and operation of communication networks, including their constituent subsystems, and signaling protocols, standards for the quality of data, voice and video transmission used in communication networks, in the

legislation of the Russian Federation in the field of communications.	in communication networks, in the legislation of the Russian Federation in the field of communications.	errors and inaccuracies.	makes errors and inaccuracies, which he corrects independently.	legislation of the Russian Federation in the field of communications.
ID-2 ^{PC-1} analyzes the statistical parameters of traffic, develops solutions for the operational reconfiguration of the network, changing the parameters of the switching subsystem, network platforms, for the use of equipment of new technologies; changing and adjusting the parameters of the switching subsystem, transport networks and data transmission networks, for organizing new and expanding existing communication directions.	Has difficulty analyzing statistical parameters of traffic, is not able to develop solutions for prompt reconfiguration of the network, changing the parameters of the switching subsystem, network platforms, for the use of equipment of new technologies; changing and adjusting the parameters of the switching subsystem, transport networks and data transmission networks, for organizing new and expanding existing communication directions.	In the process of analyzing the statistical parameters of traffic and developing decisions on the operational reconfiguration of the network, changing the parameters of the switching subsystem, network platforms, on the use of equipment of new technologies; changing and adjusting the parameters of the switching subsystem, transport networks and data transmission networks, on the organization of new and expansion of existing communication directions, makes errors and inaccuracies.	In the process of analyzing the statistical parameters of traffic and developing decisions on the operational reconfiguration of the network, changing the parameters of the switching subsystem, network platforms, on the use of equipment of new technologies; changing and adjusting the parameters of the switching subsystem, transport networks and data transmission networks, on the organization of new and expansion of existing communication directions, he makes errors and inaccuracies, which he corrects independently.	Confidently analyzes the statistical parameters of traffic, develops solutions for the prompt reconfiguration of the network, changing the parameters of the switching subsystem, network platforms, for the use of equipment of new technologies; changing and adjusting the parameters of the switching subsystem, transport networks and data transmission networks, for organizing new and expanding existing communication directions.
ID-3 ^{PC-1} . analyzes the statistics of the main performance indicators of radio systems and data transmission systems, develops measures to maintain them at the required level, calculates the capacity of telecommunications networks.	With difficulty analyzes the statistics of the main indicators of the efficiency of radio systems and data transmission systems, develops measures to maintain them at the required level, calculates the capacity of telecommunication s networks.	Analyzing the statistics of the main performance indicators of radio systems and data transmission systems, developing measures to maintain them at the required level, calculating the capacity of telecommunication networks, makes	Analyzing the statistics of the main performance indicators of radio systems and data transmission systems, developing measures to maintain them at the required level, calculating the capacity of telecommunication s networks, makes	Confidently analyzes the statistics of the main performance indicators of radio systems and data transmission systems, develops measures to maintain them at the required level, and calculates the capacity of telecommunication s networks.

		errors and inaccuracies.	errors and inaccuracies, which he corrects independently.	
ID-4 _{PC-1} develops schemes for the organization of communication and integration of new network elements, builds and expands the switching subsystem and network platforms; performs work on switching equipment, deploys equipment of service platforms, equipment of new technologies on the network, fulfills plans for the expansion of existing equipment of network platforms and new technologies.	Develops schemes for the organization of communication and integration of new network elements, builds and expands the switching subsystem and network platforms; performs work on switching equipment, deploys equipment for service platforms, equipment of new technologies on the network, fulfills plans to expand existing equipment of network platforms and new technologies.	Developing schemes for the organization of communication and integration of new network elements, building and expanding the switching subsystem and network platforms; performing work on switching equipment, fulfilling plans for the expansion of existing equipment of network platforms and new technologies, makes errors and inaccuracies.	Developing schemes for the organization of communication and integration of new network elements, building and expanding the switching subsystem and network platforms; performing work on switching equipment, fulfilling plans for the expansion of existing equipment of network platforms and new technologies, makes errors and inaccuracies, which he corrects independently.	Confidently develops schemes for the organization of communication and integration of new network elements, builds and expands the switching subsystem and network platforms; performs work on switching equipment, deploys equipment for service platforms, equipment for new technologies on the network, fulfills plans for the expansion of existing equipment of network platforms and new technologies.
Competency: PC-2				
ID-1 _{PC-2} understands the basics of electrical engineering, network technologies, principles of operation, indicators of the use and functioning of telecommunication equipment, the requirements of technical regulations, international and national standards and other regulatory documents in the field of assessing the quality indicators of information and communication equipment.	Does not understand the basics of electrical engineering, network technologies, principles of operation, indicators of the use and functioning of telecommunication s equipment, the requirements of technical regulations, international and national standards and other regulatory documents in the field of assessing the quality indicators of information and	Using the concepts of the basics of electrical engineering, network technologies, principles of operation, indicators of the use and functioning of telecommunication equipment, the requirements of technical regulations, international and national standards and other regulatory documents in the field of assessing the quality indicators of the operation of information and	Using the concepts of the basics of electrical engineering, network technologies, principles of operation, indicators of the use and functioning of telecommunication equipment, the requirements of technical regulations, international and national standards and other regulatory documents in the field of assessing the quality indicators of the operation of information and	Confidently uses the concepts of the basics of electrical engineering, network technologies, principles of operation, indicators of the use and functioning of telecommunication equipment, the requirements of technical regulations, international and national standards and other regulatory documents in the field of assessing the quality indicators of the operation of information and

	communication equipment.	communication equipment, he makes errors and inaccuracies.	communication equipment, he makes mistakes and inaccuracies, which he corrects independently.	communication equipment.
ID-2 ^{PK-2} complies with the requirements of programs and methods for conducting experimental tests of communication facilities and systems (information and communication equipment).	Does not comply with the requirements of programs and methods for conducting experimental tests of communication facilities and systems (information and communication equipment).	Complying with the requirements of programs and methods for conducting experimental tests of communication facilities and systems (information and communication equipment), makes errors and inaccuracies.	Complying with the requirements of programs and methods for conducting experimental tests of objects and communication systems (information and communication equipment), he/she makes mistakes and inaccuracies, which he/she corrects independently.	Strictly complies with the requirements of programs and methods for conducting experimental tests of communication facilities and systems (information and communication equipment).
ID-3 ^{PC-2} works with software used in the processing of information from infocommunication systems and their components, technical means of data collection and processing, with various information systems and databases.	It is difficult to work with software used in the processing of information from information and communication systems and their components, technical means of data collection and processing, with various information systems and databases.	Working with software used in the processing of information of information and communication systems and their components, technical means of data collection and processing, with various information systems and databases, makes errors and inaccuracies.	Working with software used in the processing of information of information and communication systems and their components, technical means of data collection and processing, with various information systems and databases, he makes errors and inaccuracies, which he corrects independently.	Confidently works with software used in the processing of information of information and communication systems and their components, technical means of data collection and processing, with various information systems and databases.
ID-4 ^{PK-2} controls the quality indicators of the operation of information and communication equipment in accordance with their regulatory indicators.	Has difficulty controlling the quality indicators of information and communication equipment in accordance with their regulatory indicators.	In the process of monitoring the quality indicators of information and communication equipment in accordance with their regulatory indicators, he makes errors and inaccuracies.	In the process of monitoring the quality indicators of information and communication equipment in accordance with their regulatory indicators, he makes errors and inaccuracies, which he corrects independently.	Confidently monitors the quality indicators of information and communication equipment in accordance with their regulatory indicators.
ID-5 ^{PC-2} conducts experimental studies	With difficulty conducts	In the process of conducting	In the process of conducting	Confidently conducts

on the existing programs and methods of testing objects and communication systems (information and communication equipment) in order to assess their quality performance.	experimental research on the existing programs and methods of testing objects and communication systems (information and communication equipment) in order to assess their quality performance.	experimental studies on the existing programs and methods of testing objects and communication systems (information and communication equipment) in order to assess their quality indicators, makes errors and inaccuracies.	experimental research on the existing programs and methods of testing objects and communication systems (information and communication equipment) in order to assess their quality performance, he/she makes errors and inaccuracies, which he/she corrects independently.	experimental research on existing programs and methods of testing objects and communication systems (information and communication equipment) in order to assess their quality performance.
Competency: PC-3				
ID-1 _{PC-3} understands regulatory, regulatory, technical, organizational and methodological documents that regulate the design preparation, implementation and operation of communication systems (telecommunication systems), the construction of facilities and communication lines.	Does not understand the regulatory, regulatory, technical, organizational and methodological documents governing the design preparation, implementation and operation of communication systems (telecommunication systems), the construction of facilities and communication lines.	Using regulatory, regulatory, technical, organizational and methodological documents regulating the design preparation, implementation and operation of communication systems (telecommunication systems), construction of facilities and communication lines, makes errors and inaccuracies.	Using regulatory, regulatory, technical, organizational and methodological documents governing the design preparation, implementation and operation of communication systems (telecommunication systems), the construction of facilities and communication lines, he makes errors and inaccuracies, which he corrects independently.	Confidently uses regulatory, regulatory, technical, organizational and methodological documents governing the design preparation, implementation and operation of communication systems (telecommunication systems), construction of facilities and communication lines.
ID-2 _{PC-3} operates with technologies used on the transport network, modern requirements for performance, availability, security, scalability, technology integration, manageability of communication systems (telecommunications); principles of planning the capacity of radio access networks.	It is difficult to operate with the technologies used in the transport network, modern requirements for performance, availability, security, scalability, integration of technologies, manageability of communication systems	Operating with the technologies used in the transport network, modern requirements for performance, availability, security, scalability, integration of technologies, manageability of communication systems (telecommunication)	Operating with the technologies used in the transport network, modern requirements for performance, availability, security, scalability, technology integration, manageability of communication systems (telecommunication)	Confidently operates the technologies used in the transport network, modern requirements for performance, availability, security, scalability, technology integration, manageability of communication systems

	(telecommunication ns); principles of planning the capacity of radio access networks.	ns); the principles of planning the capacity of radio access networks, allows errors and inaccuracies.	ns); principles of planning the capacity of radio access networks, makes errors and inaccuracies, which he corrects independently.	(telecommunication ns); principles of planning the capacity of radio access networks.
ID-3 _{PC-3} calculates the parameters and characteristics of the network and infocommunication facilities, analyzes their qualitative indicators based on statistics and radio measurements, and uses specialized design software.	With difficulty calculates the parameters and characteristics of the network and infocommunicatio n tools, analyzes their qualitative indicators based on statistics and radio measurements, uses specialized design software.	Calculating the parameters and characteristics of the network and infocommunicatio n facilities, analyzes their qualitative indicators based on statistics and radio measurements, uses specialized design software, makes mistakes and inaccuracies.	Calculating the parameters and characteristics of the network and infocommunicatio n facilities, analyzes their qualitative indicators based on statistics and radio measurements, uses specialized design software, makes errors and inaccuracies, which he corrects independently.	Confidently calculates the parameters and characteristics of the network and infocommunication tools, analyzes their qualitative indicators based on statistics and radio measurements, uses specialized design software.
ID-4 _{PC-3} identifies and analyzes the advantages and disadvantages of design solutions, assesses the risks associated with the implementation of the project.	Finds it difficult to identify and analyze the advantages and disadvantages of design solutions, assesses the risks associated with the implementation of the project.	In the process of identifying and analyzing the advantages and disadvantages of design solutions, assessing the risks associated with the implementation of the project, makes errors and inaccuracies.	In the process of identifying and analyzing the advantages and disadvantages of design solutions, assessing the risks associated with the implementation of the project, he makes mistakes and inaccuracies, which he corrects independently.	Confidently identifies and analyzes the advantages and disadvantages of design solutions, assesses the risks associated with the implementation of the project.
ID-5 _{PC-3} collects initial data for the design of the network and infocommunication tools, determines the optimal configuration and topology of the transport network; develops technical solutions for the implementation of the communication system (telecommunication system) and its components.	With difficulty collects initial data for the design of the network and infocommunicatio n tools, determining the optimal configuration and topology of the transport network; develops technical solutions for the implementation of the communication system (telecommunication	Collecting initial data for the design of the network and infocommunicatio n tools, determining the optimal configuration and topology of the transport network; developing technical solutions for the implementation of the communication system (telecommunication	Collecting initial data for the design of the network and infocommunicatio n tools, determining the optimal configuration and topology of the transport network; developing technical solutions for the implementation of the communication system (telecommunication	Confidently collects initial data for the design of the network and infocommunication tools, determining the optimal configuration and topology of the transport network; develops technical solutions for the implementation of the communication system (telecommunicatio n system) and its components.

	n system) and its components.	components, makes errors and inaccuracies.	components, makes errors and inaccuracies, which he corrects independently.	
ID-6 _{PC-3} develops circuit design solutions for the components of radio-electronic facilities, selects the element base for the development of circuit solutions, conducts automated modeling and experimental work to check the technical characteristics of the upgraded radio-electronic facilities.	With difficulty carries out the development of circuit design solutions for the components of radio-electronic facilities, the selection of the element base for the development of circuit solutions, conducts automated modeling and experimental work to check the technical characteristics of the modernized radio-electronic facilities.	Making mistakes and inaccuracies when developing circuit design solutions for the components of radio-electronic facilities, selecting the element base for the development of circuit solutions, conducting automated modeling and experimental work to check the technical characteristics of the radio-electronic facilities being upgraded.	Carrying out the development of circuit design solutions for the components of radio-electronic facilities, selecting the element base for the development of circuit solutions, conducting automated modeling and experimental work to check the technical characteristics of the modernized radio-electronic facilities, he makes errors and inaccuracies, which he corrects independently.	Confidently carries out the development of circuit design solutions for the components of radio-electronic facilities, the selection of the element base for the development of circuit solutions, conducts automated modeling and experimental work to check the technical characteristics of the modernized radio-electronic facilities.
Competency: PC-4				
ID-1 _{PC-4} complies with the principles of a systematic approach in the design of communication systems (telecommunications), infocommunication facilities and their components, requirements for the development of technical documentation.	Does not comply with the principles of a systematic approach in the design of communication systems (telecommunications), infocommunication facilities and their components, requirements for the development of technical documentation.	Observing the principles of a systematic approach in the design of communication systems (telecommunications), infocommunication facilities and their components, the requirements for the development of technical documentation, makes mistakes and inaccuracies.	Observing the principles of a systematic approach in the design of communication systems (telecommunications), infocommunication facilities and their components, the requirements for the development of technical documentation, the child makes mistakes and inaccuracies, which he corrects independently.	Strictly observes the principles of a systematic approach in the design of communication systems (telecommunications), infocommunication facilities and their components, requirements for the development of technical documentation.
ID-2 _{PC-4} understands and is guided by the principles of construction and	Does not understand and is not guided by the principles of	Using the concepts of the principles of construction and operation of	Using the concepts of the principles of construction and operation of	Confidently uses the concepts of the principles of construction and

operation of infocommunication tools and their components, modern technical solutions for the implementation of communication systems (telecommunication systems) and its components, the software used.	construction and operation of infocommunication tools and their components, modern technical solutions for the implementation of communication systems (telecommunication systems) and its components, the software used.	infocommunication tools and their components, modern technical solutions for the implementation of communication systems (telecommunication systems) and its components, the software used allows errors and inaccuracies.	infocommunication tools and their components, modern technical solutions for the implementation of communication systems (telecommunication systems) and its components, the software used makes errors and inaccuracies, which it corrects independently.	operation of infocommunication tools and their components, modern technical solutions for the implementation of communication systems (telecommunication systems) and its components, the software used.
ID-3 PK-4 develops project documentation in accordance with standards and technical regulations; develops and submits presentation materials on the project.	Develops project documentation in accordance with standards and technical regulations with difficulty; develops and submits presentation materials for the project.	Developing project documentation in accordance with standards and technical regulations; developing and presenting presentation materials for the project, making mistakes and inaccuracies.	Developing project documentation in accordance with standards and technical regulations; develops and submits presentation materials on the project, makes mistakes and inaccuracies, which he corrects independently.	Confidently develops project documentation in accordance with standards and technical regulations; develops and presents presentation materials for the project.
ID-4 PC-4 develops technical solutions for the creation of a communication system (telecommunication system) and its components; preparation of a communication organization scheme, equipment placement plan, passage scheme and other necessary documents; assessment of costs for the creation (modernization) of a communication system (telecommunication system).	Hardly develops technical solutions for the creation of a communication system (telecommunication system) and its components; preparation of a communication organization scheme, equipment placement plan, passage diagram and other necessary documents; estimation of costs for the creation (modernization) of a communication system (telecommunication system).	Carrying out the development of technical solutions for the creation of a communication system (telecommunication system) and its components; preparation of a communication organization scheme, equipment layout plan, passage scheme and other necessary documents; estimation of costs for the creation (modernization) of a communication system (telecommunication system), makes	Carrying out the development of technical solutions for the creation of a communication system (telecommunication system) and its components; Preparation of a communication organization scheme, equipment placement plan, passage scheme and other necessary documents; Estimation of costs for the creation (modernization) of a communication system (telecommunication system), makes	Confidently develops technical solutions for the creation of a communication system (telecommunication system) and its components; preparation of a communication organization scheme, equipment placement plan, passage scheme and other necessary documents; estimation of costs for the creation (modernization) of a communication system (telecommunication system).

		errors and inaccuracies.	errors and inaccuracies, which are corrected independently.	
Competency: PC-5				
ID-1 PK-5 understands the current industry standards that determine the requirements for the parameters of the operation of equipment, channels and paths; methods for checking the technical condition of equipment, paths and transmission channels.	Does not understand the current industry standards that determine the requirements for the parameters of the operation of equipment, channels and paths; methods for checking the technical condition of equipment, paths and transmission channels.	Using the current industry standards that determine the requirements for the operating parameters of equipment, channels and paths; methods for checking the technical condition of equipment, paths and transmission channels, makes errors and inaccuracies.	Using the current industry standards that determine the requirements for the parameters of the operation of equipment, channels and paths; methods for checking the technical condition of equipment, paths and transmission channels, makes errors and inaccuracies, which he corrects independently.	Confidently applies in practice the current industry standards that determine the requirements for the parameters of the operation of equipment, channels and paths; methods for checking the technical condition of equipment, paths and transmission channels.
ID-2PK-5 observes the technologies for setting up, adjusting and testing communication (telecommunications) equipment, operating rules and methods of using measuring and testing equipment.	Does not comply with the technology of work on the configuration, adjustment and testing of communication equipment (telecommunications), the rules of operation and the methods of using measuring and testing equipment.	Observing the technology of work on the configuration, adjustment and testing of communication (telecommunications) equipment, the rules of operation and methods of using measuring and testing equipment, makes errors and inaccuracies.	Observing the technologies for setting up, adjusting and testing communication (telecommunications) equipment, operating rules and methods of using measuring and testing equipment, he makes mistakes and inaccuracies, which he corrects independently.	Strictly observes the technologies for setting up, adjusting and testing communication equipment (telecommunications), operating rules and methods of using measuring and testing equipment.
ID-3PK-5 performs settings, adjustments and tests of communication equipment (telecommunications) using technical and technological documentation; maintains technical and technological documentation in accordance with the established forms; checks the quality of equipment and	Has difficulty in adjusting, adjusting and testing communication equipment (telecommunications) with the help of technical and technological documentation; maintains technical and technological documentation in accordance with	Performing settings, adjustments and tests of communication equipment (telecommunications) using technical and technological documentation; maintains technical and technological documentation in accordance with the established	Performing adjustments, adjustments and tests of communication equipment (telecommunications) with the help of technical and technological documentation; maintains technical and technological documentation in accordance with	Confidently performs settings, adjustments and tests of communication equipment (telecommunications) using technical and technological documentation; maintains technical and technological documentation in accordance with the established forms; checks the

communication facilities.	the established forms; checks the quality of equipment and communication facilities.	forms; checks the quality of equipment and communication facilities, makes errors and inaccuracies.	the established forms; checks the quality of equipment and communication facilities, makes errors and inaccuracies, which he corrects independently.	quality of equipment and communication facilities.
ID-4PK-5 carries out incoming inspection of equipment, preparation of test equipment, measuring equipment, devices; testing of equipment and development of equipment operating modes.	With difficulty carries out incoming control of equipment, preparation of test equipment, measuring equipment, devices; testing of equipment and development of equipment operating modes.	Carrying out incoming inspection of equipment, preparation of testing equipment, measuring equipment, devices; testing equipment and working out the operating modes of equipment, makes errors and inaccuracies.	Carrying out incoming inspection of equipment, preparation of testing equipment, measuring equipment, devices; testing equipment and working out the operating modes of equipment, makes errors and inaccuracies, which he corrects independently.	Confidently conducts incoming inspection of equipment, preparation of test equipment, measuring equipment, devices; testing of equipment and development of equipment operating modes.
ID-5PK-5 selects and uses appropriate test and measurement equipment, uses the equipment software when setting it up.	Finds it difficult to select and use appropriate test and measurement equipment, uses equipment software when setting it up.	In the process of selecting and using the appropriate test and measuring equipment, using the software of the equipment when setting it up, it makes errors and inaccuracies.	In the process of selecting and using the appropriate test and measuring equipment, using the software of the equipment when setting it up, he makes errors and inaccuracies, which he corrects independently.	Confidently selects and uses the appropriate test and measurement equipment, uses the equipment software when setting it up.
Competency: PC-6				
ID-1PK-6 understands the architecture and general principles of operation, hardware, software and software and hardware of the administered network, the procedure for configuring network elements of the information and communication system.	Does not understand the architecture and general principles of functioning, hardware, software and software and hardware of the administered network, the procedure for setting up network elements of the information and communication system.	Using the architecture and general principles of functioning, hardware, software and software and hardware of the administered network, the procedure for configuring network elements of the information and communication system, allows	Using the architecture and general principles of functioning, hardware, software and software and hardware of the administered network, the procedure for setting up network elements of the information and communication system, makes errors and inaccuracies,	Confidently uses the architecture and general principles of functioning, hardware, software and software and hardware of the administered network, the procedure for configuring network elements of the information and communication system.

		errors and inaccuracies.	which he corrects independently.	
ID-2PK-6 uses modern standards in the administration of devices and software; uses standard and external software and hardware to monitor the performance of the network infrastructure of the administered network.	Has difficulty using modern standards when administering devices and software; uses standard and external software and hardware to monitor the performance of the network infrastructure of the administered network.	Using modern standards in the administration of devices and software; uses standard and external software and hardware to monitor the performance of the network infrastructure of the administered network, makes errors and inaccuracies.	Using modern standards in the administration of devices and software; uses standard and external software and hardware to monitor the performance of the network infrastructure of the administered network, makes errors and inaccuracies, which it corrects independently.	Confidently uses modern standards in the administration of devices and software; uses standard and external software and hardware to monitor the performance of the network infrastructure of the administered network.
ID-3PK-6 diagnoses failures and errors of network devices and software.	Has difficulty diagnosing failures and errors of network devices and software.	When diagnosing failures and errors of network devices and software, he makes errors and inaccuracies.	When diagnosing failures and errors of network devices and software, he makes errors and inaccuracies, which he corrects himself.	Confidently diagnoses failures and errors of network devices and software.
ID-4PK-6 carries out routine maintenance on network devices and software of the information and communication system.	Has difficulty carrying out routine maintenance on network devices and software of the infocommunication system.	When carrying out routine maintenance on network devices and software of the information and communication system, he makes errors and inaccuracies.	When carrying out routine maintenance on network devices and software of the information and communication system, he makes mistakes and inaccuracies, which he corrects independently.	Confidently carries out routine maintenance on network devices and software of the infocommunication system.
ID-5PK-6 installs and configures system and application software necessary for the functioning of the IS in accordance with the work assignment, carries out standard design and parameterization of the IS in accordance with the regulations of the organization.	With difficulty performs the installation and configuration of system and application software necessary for the functioning of the IS in accordance with the work assignment, carries out standard design and parameterization of the IS in accordance with	Performing the installation and configuration of system and application software necessary for the functioning of the IS in accordance with the work assignment, it carries out standard design and parameterization of the IS in accordance with	Performing the installation and configuration of system and application software necessary for the functioning of the IS in accordance with the work assignment, he carries out standard design and parameterization of the IS in accordance with	Confidently performs installation and configuration of system and application software necessary for the functioning of the IS in accordance with the work assignment, carries out standard design and parameterization of the IS in accordance with

	the regulations of the organization.	the regulations of the organization, makes errors and inaccuracies.	the regulations of the organization, makes errors and inaccuracies, which he corrects independently.	the regulations of the organization.
Competency: PC-7				
ID-1PK-7 understands and uses the basic principles, protocols and software cryptographic tools for ensuring the information security of network devices.	Does not understand and is not able to use the basic principles, protocols and software cryptographic tools for ensuring the information security of network devices.	Using the basic principles, protocols and software cryptographic tools for ensuring the information security of network devices, it makes errors and inaccuracies.	Using the basic principles, protocols and software cryptographic means of ensuring the information security of network devices, it makes errors and inaccuracies, which it corrects independently.	Understands and confidently uses the basic principles, protocols and software cryptographic tools for ensuring the information security of network devices.
ID-2PK-7 understands the general principles of operation and architecture of hardware, software and software and hardware of the administered network; protocols of the channel, network, transport and application layers of the open systems interaction model.	Does not understand the general principles of operation and architecture of hardware, software and software and hardware of the administered network; protocols of the channel, network, transport and application layers of the model of interaction of open systems.	Using the general principles of functioning and architecture of hardware, software and software and hardware of the administered network; protocols of the channel, network, transport and application layers of the model of interaction of open systems, makes errors and inaccuracies.	Using the general principles of functioning and architecture of hardware, software and hardware of the administered network; protocols of the channel, network, transport and application layers of the model of interaction of open systems, makes errors and inaccuracies, which it corrects independently.	Confidently uses the general principles of operation and architecture of hardware, software and hardware of the administered network; protocols of the channel, network, transport and application layers of the model of interaction of open systems.
ID-3 PK-7 uses software, hardware and software and hardware to protect network devices from unauthorized access; adjusts the parameters of modern software and hardware firewalls.	Has difficulty using software, hardware and software and hardware to protect network devices from unauthorized access; adjusts the parameters of modern software and hardware firewalls.	Using software, hardware and software and hardware means to protect network devices from unauthorized access; adjusts the parameters of modern software and hardware firewalls, makes errors and inaccuracies.	Using software, hardware and software and hardware to protect network devices from unauthorized access; adjusts the parameters of modern software and hardware firewalls, makes errors and inaccuracies, which he corrects independently.	Confidently applies software, hardware and software and hardware to protect network devices from unauthorized access; configures the parameters of modern software and hardware firewalls.
ID-4 PK-7	Has difficulty connecting and	In the process of connecting and	In the process of connecting and	Confidently connects and

connects and configures modern remote access security tools (operating systems and specialized protocols); works with control and measurement hardware and software.	configuring modern remote access security tools (operating systems and specialized protocols); works with control and measurement hardware and software.	configuring modern remote access security tools (operating systems and specialized protocols), it makes errors and inaccuracies.	configuring modern remote access security tools (operating systems and specialized protocols), he makes errors and inaccuracies, which he corrects himself.	configures modern remote access security tools (operating systems and specialized protocols); works with control and measurement hardware and software.
ID-5 PK-7 Installs and parameterizes additional remote access security software products.	Has difficulty installing and parameterizing additional remote access security software.	When installing additional software products to ensure the security of remote access and parameterizing them, he makes errors and inaccuracies.	When installing additional software products to ensure the security of remote access and parameterizing them, he makes errors and inaccuracies that he corrects himself.	Confidently installs and parameterizes additional remote access security software.
Competency: PC-8				
ID-1 PK-8 comply with the instructions for the installation and operation of the managed network devices and software; the regulations for preventive maintenance on the administered information and communication system.	Does not comply with the instructions for the installation and operation of the administered network devices and software; Regulations for preventive maintenance on the administered information and communication system.	Following the instructions for the installation and operation of the administered network devices and software; the regulations for carrying out preventive maintenance on the administered information and communication system, makes errors and inaccuracies.	Following the instructions for the installation and operation of the administered network devices and software; the regulations for carrying out preventive maintenance on the administered information and communication system, makes errors and inaccuracies, which he/she corrects independently.	Strictly complies with the instructions for the installation and operation of the administered network devices and software; the regulations for preventive maintenance on the administered information and communication system.
ID-2 PC-8 installs operating systems of network devices; monitors administered network devices; uses standard data recovery procedures, works with archiving servers and operating system management tools; schedules backup of operating systems of network devices; disassembles and	Has difficulty installing operating systems for network devices. Monitors managed network devices. Uses standard data recovery procedures, works with backup servers and operating system management tools.	Installing operating systems of network devices; Monitoring of managed network devices; Using standard data recovery procedures, works with archiving servers and operating system management tools;	Installing operating systems of network devices; Monitoring of managed network devices; Using standard data recovery procedures, works with archiving servers and operating system management tools;	Confidently installs operating systems of network devices; monitors managed network devices; uses standard data recovery procedures, works with archiving servers and operating system management tools; schedules backup of network device

assembles administered network devices.	Schedules backups of network device operating systems. Disassembles and assembles managed network devices.	Creating a backup schedule for operating systems of network devices; Makes mistakes and inaccuracies when disassembling and assembling managed network devices.	Making a backup schedule for operating systems of network devices; Disassembling and assembling administered network devices, makes errors and inaccuracies, which it corrects independently.	operating systems; disassembles and assembles managed network devices.
ID-3 PK-8 uses modern means of monitoring the performance of the administered network; uses regulatory and technical documentation in the field of information and communication technologies to solve problems.	Hardly uses modern means of monitoring the performance of the administered network; uses regulatory and technical documentation in the field of information and communication technologies to solve problems.	Using modern means of monitoring the performance of the administered network; using regulatory and technical documentation in the field of information and communication technologies to solve problems, it makes errors and inaccuracies.	Using modern means of monitoring the performance of the administered network; using regulatory and technical documentation in the field of information and communication technologies to solve problems, he makes errors and inaccuracies, which he independently eliminates.	Confidently uses modern means of monitoring the performance of the administered network; uses regulatory and technical documentation in the field of information and communication technologies to solve problems.
ID-4 PK-8 performs work on rebooting the operating systems of network devices, planning the schedule for copying the software of the network infocommunication system, restoring parameters using archiving servers and management tools for specialized operating systems of network equipment.	Has difficulty rebooting the operating systems of network devices, planning the schedule for copying the software of the network infocommunication system, restoring parameters using archiving servers and management tools for specialized operating systems of network equipment.	Performing work on rebooting the operating systems of network devices, planning the schedule for copying the software of the network infocommunication system, restoring parameters with the help of archiving servers and management tools of specialized operating systems of network equipment, makes errors and inaccuracies.	Performing work on rebooting the operating systems of network devices, planning the schedule for copying the software of the network infocommunication system, restoring parameters with the help of archiving servers and management tools of specialized operating systems of network equipment, he makes errors and inaccuracies, which he corrects independently.	Confidently performs work on rebooting the operating systems of network devices, planning the schedule for copying the software of the network infocommunication system, restoring parameters using archiving servers and management tools for specialized operating systems of network equipment.
ID-5 PK-8	It is difficult to carry out routine	Carrying out routine	Carrying out routine	Confidently carries out routine

carries out routine maintenance of equipment in accordance with the manufacturer's recommendations.	maintenance of equipment in accordance with the manufacturer's recommendations.	maintenance of equipment in accordance with the manufacturer's recommendations, it makes errors and inaccuracies.	maintenance of equipment in accordance with the manufacturer's recommendations, he makes errors and inaccuracies, which he independently eliminates.	maintenance of equipment in accordance with the manufacturer's recommendations.
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2. Assessment tools for industrial pre-diploma practice

2.1. Tasks that allow you to assess the knowledge gained in practice

Emerging competencies, indicators (Competency code)	Task Statement	
UK-1, UK-2, UK-3, UK-6, UK-7, UK-8, UK-9, UK-10, PC-1, PC-2, PC-3, PC-4, PC-5, PC-6, PC-7, PC-8.	1	Study the requirements for the preparation of a thesis.
	2	Get acquainted with the methods of analysis and processing of experimental data.
	3	To study domestic and foreign experience in the field of thesis.
	4	To study the procedure for implementing the results obtained.
	5	Formulate the terms of reference on the topic of the thesis.
	6	Conduct a patent search on the topic of the thesis.
	7	Prepare a technical solution on the topic of the thesis.
	8	Prepare materials for a scientific and technical seminar based on the results of research.
	9	Prepare a presentation on a given topic.
	10	Prepare a publication (article) on the topic of the thesis.

2.2. Tasks that allow you to assess the skills and abilities acquired in practice

Emerging competencies, indicators (Competency code)	Task Statement	
UK-1, UK-2, UK-3, UK-6, UK-7, UK-8, UK-9, UK-10, PC-1, PC-2, PC-3, PC-4, PC-5, PC-6, PC-7, PC-8.	1	Prepare a publication (fragment of an application for an invention).
	2	To develop a methodology for conducting an experiment on the topic of thesis.
	3	To develop a methodology for mathematical modeling on the topic of thesis.
	4	Prepare proposals for improving the information and communication structure of the organization.
	5	To carry out experimental research to solve research and production problems using modern equipment and research methods.
	6	Develop proposals for improving the technical solution within the framework of the thesis topic.

3. Criteria for assessing competencies

An "excellent" grade is given to a student if the student has shown a deep, solid mastery of the internship program, while the tasks are completed in full, without errors with high quality.

A grade of "good" is given to a student if the student has shown a solid knowledge of the program educational material, while the tasks of the practice are completed competently, in a sufficiently complete volume, some inaccuracies or insignificant errors were made.

A "satisfactory" grade is given to a student if the student has shown knowledge of only the main part of the educational material of the internship without its particular details, while the tasks are not completed in full, errors or a number of minor inaccuracies are made.

The grade "unsatisfactory" is given to a student who has mastered a significant part of the program material of the practice at an insufficient level, while making gross mistakes, the tasks are not completed in full, significant mistakes have been made. An unsatisfactory grade is also given if there is no report on the completed task.

4. Methodological materials that determine the assessment procedures and characterize the stages of competence formation

The internship procedure includes the following stages: preparatory, main, final. At each stage of the internship, current control over the process of competence formation is carried out.

The tasks provide for the mastery of competencies at different levels: basic and advanced.

The main evaluated elements (indicators) of the Internship are:

- Practice diary:

1) completeness of the content and quality of the practice diary;

2) feedback from the head of the internship from the department about the student's work in the process of internship;

- Internship report:

1) assessment of the content of the report on the completeness and correctness of the solution of the tasks;

2) assessment of the quality of the report.

In accordance with the University Regulation "On the Organization of the Educational Process on the Basis of the Rating System ...", the student's grade for the internship is given based on the results of the rating points scored. The maximum amount of points for the internship is set at 100 points and is distributed by the department according to the stages of work evaluated within the framework of current and intermediate control (submission of reporting documentation, defense of the internship report). The grade is given by the teacher-supervisor of the internship.