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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
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FUND OF ASSESSMENT TOOLS
"Operational 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	6

Introduction

1. Purpose

The fund of assessment tools for the discipline "Operational Operational Practice" is intended for an objective assessment of the level of competence formation.

2. The FAT is an appendix to the program of the discipline "Operational Practice".

3. The developer is V.P. Mochalov, Associate Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

4. An examination of the FOC was carried out.

Members of the expert group:

Chairman: V.P. Mochalov, Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

Members of the Commission:

S.V. Yakovlev, Associate Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

S.V. Melnikov, Senior Researcher of the Interdisciplinary Training and Research Center for Agricultural Technologies, Associate Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

Representative of the employer's organization:

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.

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-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 requirements of the labor market.	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 requirements of the labor market.	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 activities and the requirements of the labor market, makes mistakes and inaccuracies.	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 activities and the requirements of the labor market, he makes mistakes and inaccuracies, which he corrects independently.	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.
ID-3 ^{UK-6} critically evaluates the effectiveness of the use of time and	Is not able to critically assess the effectiveness of the use of time	Assessing the effectiveness of the use of time and other	Assessing the effectiveness of the use of time and other	Confidently evaluates the effectiveness of the use of time and

other resources in solving tasks in the chosen field of professional activity.	and other resources in solving tasks in the chosen field of professional activity.	resources in solving tasks in the chosen field of professional activity, he makes mistakes and inaccuracies.	resources in solving tasks in the chosen field of professional activity, he makes mistakes and inaccuracies, which he corrects independently.	other resources when solving tasks in the chosen field of professional activity.
Competence: UK-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.	Complies with the instructions for the installation and operation of the managed network devices and software; Regulations for preventive maintenance on the administered information and communication system, but makes errors and inaccuracies	• Complies with the instructions for the installation and operation of the administered network devices and software; • Regulations for carrying out preventive maintenance on the administered information and communication system, but makes errors and inaccuracies, which he/she corrects independently	Strictly follows 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
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,	Confidently applies the basic methods of protection in the threat and occurrence of emergencies and military conflicts in everyday life and professional activities.

			which he corrects 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 communication facilities.	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 the established forms; checks the	Performing 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	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 the established forms; checks the	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 quality of

	quality of equipment and communication facilities.	quality of equipment and communication facilities, makes errors and inaccuracies.	quality of equipment and communication facilities, makes errors and inaccuracies, which he corrects independently.	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 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 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 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 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 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 information and communication 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 information and communication 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	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	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	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.	of the IS in accordance with the regulations of the organization, makes errors and inaccuracies.	of the IS in accordance with the regulations of the organization, makes errors and inaccuracies, which he corrects independently.	parameterization of the IS in accordance with 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 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 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,	Confidently applies software, hardware and software and hardware to protect network devices from unauthorized access; configures the parameters of modern software and hardware firewalls.

			which he corrects independently.	
ID-4 ^{PK-7} connects and configures modern remote access security tools (operating systems and specialized protocols); works with control and measurement hardware and software.	Has difficulty connecting and configuring modern remote access security tools (operating systems and specialized protocols); works with control and measurement hardware and software.	In the process of connecting and configuring modern remote access security tools (operating systems and specialized protocols), it makes errors and inaccuracies.	In the process of connecting and configuring modern remote access security tools (operating systems and specialized protocols), he makes errors and inaccuracies, which he corrects himself.	Confidently connects and 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	Has difficulty installing operating systems for network devices. Monitors managed network devices. Uses standard data recovery	Installing operating systems of network devices; Monitoring of managed network devices; Using standard data recovery	Installing operating systems of network devices; Monitoring of managed network devices; Using standard data recovery	Confidently installs operating systems of network devices; monitors managed network devices; uses standard data recovery procedures, works

and operating system management tools; schedules backup of operating systems of network devices; disassembles and assembles administered network devices.	procedures, works with backup servers and operating system management tools. Schedules backups of network device operating systems. Disassembles and assembles managed network devices.	procedures, works with archiving servers and operating system management tools; Creating a backup schedule for operating systems of network devices; Makes mistakes and inaccuracies when disassembling and assembling managed network devices.	procedures, works with archiving servers and operating system management tools; Making a backup schedule for operating systems of network devices; Disassembling and assembling administered network devices, makes errors and inaccuracies, which it corrects independently.	with archiving servers and operating system management tools; schedules backup of network device 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	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	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.

		equipment, makes errors and inaccuracies.	equipment, he makes errors and inaccuracies, which he corrects independently.	
ID-5 PK-8 carries out routine maintenance of equipment in accordance with the manufacturer's recommendations.	It is difficult to carry out routine maintenance of equipment in accordance with the manufacturer's recommendations.	Carrying out routine maintenance of equipment in accordance with the manufacturer's recommendations, it makes errors and inaccuracies.	Carrying out routine maintenance of equipment in accordance with the manufacturer's recommendations, he makes errors and inaccuracies, which he independently eliminates.	Confidently carries out routine maintenance of equipment in accordance with the manufacturer's recommendations.

2. Assessment tools for production operational practice

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

Emerging competencies, indicators		Task Statement
Competency code	Wording	
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. 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 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.	1 Study the responsibilities of a telecommunications engineer. 2 To study the structure of the enterprise. 3 To analyze the tasks of the information and communication system of the enterprise. 4 To analyze the information and communication system of the enterprise. 5 To study the methodology of summing up the work of the team for a week, a month. 6 To study the methodology for investigating communication violations. 7 To analyze the telecommunications equipment of the enterprise. 8 To study the purpose, application, composition, technical characteristics, principle of operation according to the structural scheme of the DSLM multiplexer.
UK-8	ID-1 ^{UK-8} is familiar with the general characteristics of ensuring security and sustainable development in various spheres of life; classification of military emergencies, principles and methods of organizing the protection of the population from dangers arising in peacetime and during military operations; ID-2 ^{UK-8} assesses the probability 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 threat and occurrence of emergencies and military conflicts in everyday life and professional activities.	9 To study the purpose, application, composition, technical characteristics, principle of operation according to the structural diagram of the automatic telephone exchange of the enterprise. 10 To study the purpose, application, composition, technical characteristics, principle of operation according to the structural diagram of the router. 11 Study the procedure for measuring the parameters of subscriber lines. 12 To study the purpose, application, composition, technical characteristics, principle of operation according to the structural diagram of the SDH STM-1 CBPB (for Rostelecom enterprise). 13 To study the purpose, application, composition, technical characteristics, principle of operation according to the structural scheme of the SDH STM-4 CBPB (for Rostelecom).
PP-5	ID-1 ^{PP-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. ID-2 ^{PP-5} complies with the technologies for setting up,	14 To study the purpose, application, technical characteristics, principle of operation according to the structural scheme of the MRT-6000 optical device (for the Telecom-S enterprise). 15 To study the purpose, application, technical characteristics, principle of operation according to the structural scheme of the FOT-903 optical tester (for the Telecom-S enterprise).

	adjusting and testing communication (telecommunications) equipment, 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 communication facilities. ID-4PK-5 carries out incoming inspection of equipment, preparation of testing equipment, measuring equipment, devices; testing of equipment and development of equipment operating modes. ID-5PC-5 selects and uses the appropriate test and measuring equipment, uses the equipment software when setting it up	16 To study the purpose, application, technical characteristics, principle of operation according to the structural scheme of the base station (for a mobile operator's enterprise).
PP-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 infocommunication system. ID-2PC-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. ID-3PC-6 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. ID-5PK-6 installs and configures the 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.	
PP-7	ID-1PC-7 understands and uses the basic principles, protocols and software cryptographic tools for ensuring the information security of network devices. ID-2PC-7 understands the general principles of operation and architecture of hardware, software, software and hardware of the administered network; protocols of the channel, network, transport and application layers of the open systems interaction model. ID-3PK-7 uses software, hardware and software and hardware to protect network devices from unauthorized access; configures the parameters of modern software and hardware firewalls. ID-4PC-7 connects and configures modern remote access security tools (operating systems and specialized protocols); works with control and measurement hardware and software. ID-5PC-7 installs additional software products to ensure remote access security and parameterization.	
PP-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. 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 assembles administered 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.	
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2.2. Tasks that allow you to assess the skills and abilities acquired in practice

Emerging competencies, indicators		Task Statement
Competency code	Wording	
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. 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 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.	1. To conduct a SWOT analysis of the information and communication system of a communication enterprise. 2. To analyze the advantages and disadvantages of the information and communication system of the enterprise. 3. To review the systems of simulation modeling of telecommunication systems. 4. To study the purpose, application, technical characteristics, principle of operation according to the structural diagram of the IRK-PRO cable armor insulation resistance meter. 5. To study the purpose, application, composition, technical characteristics, principle of operation according to the structural scheme of the IQS-12001B fiber-optic components testing system. 6. To study the purpose, application, composition, technical characteristics, principle of operation according to the structural scheme of the FLS-2600 optical radiation source.
UK-8	ID-1 ^{UK-8} is familiar with the general characteristics of ensuring security and sustainable development in various spheres of life; classification of military emergencies, principles and methods of organizing the protection of the population from dangers arising in peacetime and during military operations; ID-2 ^{UK-8} assesses the probability 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 threat and occurrence of emergencies and	

	military conflicts in everyday life and professional activities.	
PP-5	ID-1PK-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. ID-2PK-5 complies with the technologies for setting up, adjusting and testing communication (telecommunications) equipment, 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 communication facilities. ID-4PK-5 carries out incoming inspection of equipment, preparation of testing equipment, measuring equipment, devices; testing of equipment and development of equipment operating modes. ID-5PC-5 selects and uses the appropriate test and measuring equipment, uses the equipment software when setting it up	
PP-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 infocommunication system. ID-2PC-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. ID-3PC-6 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. ID-5PK-6 installs and configures the 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.	
PP-7	ID-1PC-7 understands and uses the basic principles, protocols and software cryptographic tools for ensuring the information security of network devices. ID-2PC-7 understands the general principles of operation and architecture of hardware, software, software and hardware of the administered network; protocols of the channel, network, transport and application layers of the open systems interaction model. ID-3PK-7 uses software, hardware and software and hardware to protect network devices from unauthorized access; configures the parameters of modern software and hardware firewalls. ID-4PC-7 connects and configures modern remote access security tools (operating systems and specialized protocols); works with control and measurement hardware and software. ID-5PC-7 installs additional software products to ensure remote access security and parameterization.	
PP-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. 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 assembles administered 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.	
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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. Description of the rating scale

The maximum amount of points for practice is set at 100 points and is converted into a grade according to a 5-point system in accordance with the scale:

Rating Score Compliance Scale with a 5-Point System

Rating Score	Score on a 5-point system
88 – 100	Excellent
72 – 87	Good
53 – 71	Satisfactory
< 53	Unsatisfactory

5. 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.