

Документ подписан простой электронной подписью

Информация о владельце:

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MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION

Federal State Autonomous

Educational institution of higher education

"NORTH CAUCASUS FEDERAL UNIVERSITY"

APPROVED BY

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

**PROGRAM
OF THE STATE FINAL ATTESTATION**

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

DEVELOPED BY:

Professor at the School of Digital, Robotic Systems and Electronics, Institute of Advanced Engineering
Dr. Tech. Sci., Professor
Mochalov V.P.

Stavropol, 2026

INTRODUCTION

1. Composition of the state final attestation

1. In accordance with the Federal State Educational Standard of Higher Education – Bachelor's degree in the field of training 11.03.02 Infocommunication Technologies and Communication Systems, APPROVED BY the Order of the Ministry of Education and Science of the Russian Federation dated 19.09.2017 No 930, and the educational program in the field of training 11.03.02 Infocommunication Technologies and Communication Systems, the direction (profile) "Intelligent Data Processing in Infocommunication Systems and networks" APPROVED BY the Educational and Methodological Council of the "NCFU", protocol No 2 dated 12/05/2025, and APPROVED BY the Chairman of the Academic Council of the Institute, protocol No dated 01/22/2026, the state final certification includes:

- state examination;
- defense of the final qualification work.

2. The SFC program is compiled in accordance with the requirements of:

1. Federal State Educational Standard of Higher Education – Bachelor's degree in the field of training 11.03.02 Infocommunication Technologies and Communication Systems, APPROVED BY the Order of the Ministry of Education and Science of the Russian Federation of 19.09.2017 No 930.

2. Educational program in the field of training 11.03.02 Infocommunication Technologies and Communication Systems, APPROVED BY the Educational and Methodological Council of "NCFU", protocol No 2 dated 12/05/2025, and APPROVED BY the Chairman of the Academic Council of the Institute, protocol No dated 01/22/2026.

3. Regulations on the Procedure for Conducting the State Final Certification of Educational Programs of Higher Education – Bachelor's Programs, Specialist Programs and Master's Programs at the Federal State Autonomous Educational Institution of Higher Education "North Caucasus Federal University".

4. Regulations on the Procedure for Completing Graduation Qualification Works in the Federal State Autonomous Educational Institution of Higher Education "North Caucasus Federal University".

5. Regulations on Educational and Methodological Support of Educational Programs of Higher Education in the Federal State Autonomous Educational Institution of Higher Education "North Caucasus Federal University".

3. Competencies that a student must master as a result of mastering the educational program of higher education

Index	Content of competence
UK-(No)	Universal Competencies

Index	Content of competence
UK-1	Is able to search, critically analyze and synthesize information, apply a systematic approach to solving problems.
UK-2	Is able to determine the range of tasks within the framework of the goal and choose the best ways to solve them, based on the current legal norms, available resources and restrictions.
UK-3	Is able to carry out social interaction and fulfill his role in a team.
UK-4	Is able to carry out business communication in oral and written forms in the state language of the Russian Federation and foreign language(s).
UK-5	Is able to perceive the intercultural diversity of society in socio-historical, ethical and philosophical contexts.
UK-6	Is able to manage his time, build and implement a trajectory of self-development based on the principles of lifelong learning.
UK-7	Is able to maintain the proper level of physical fitness to ensure full social and professional activities
UK-8	Is able to create and maintain safe living conditions, including in the event of emergencies.
UK-9	Is able to make informed economic decisions in various areas of life
UK-10	Is able to form an intolerant attitude towards corrupt behavior
OPK-(No)	General professional competencies
OPK-1	Is able to use the provisions, laws and methods of natural sciences and mathematics to solve problems of engineering activities.
OPK-2	Is able to independently conduct experimental research and use the basic methods of processing and presenting the data obtained.
OPK-3	Is able to apply methods of searching, storing, processing, analyzing and presenting information from various sources and databases in the required format, while observing the basic requirements of information security.
OPK-4	Is able to understand the principles of modern information technologies and use them to solve the problems of professional activity.
OPK-5	Is able to develop algorithms and computer programs suitable for practical application.
PK-(No)	Professional competencies
	Project activities
PK-1	Is capable of developing switching subsystems and network platforms, data transmission networks, transport networks and radio access networks, satellite communication systems.
PK-2	Is able to apply modern theoretical and experimental research methods in order to create new promising means of infocommunications, use and implementation of research results
PK-3	Is able to carry out calculations on the design of networks, structures and infocommunication tools in accordance with the terms of reference using both standard

Index	Content of competence
	methods, techniques and design automation tools, and independently created original programs
PK-4	Is able to prepare standard technical projects and primary control of compliance of developed projects and technical documentation for various information and communication facilities with national and international standards and technical regulations
	Technological activities
PK-5	Is able to carry out installation, configuration, adjustment, testing of equipment, development of operating modes, control of design parameters of operation and testing of communication equipment, ensuring compliance of technical parameters of information and communication systems and / or their components with established operational and technical standards
PK-6	Is able to administer network subsystems of infocommunication systems and/or their components
PK-7	Is capable of administering remote access security tools (operating systems and specialized protocols)
PK-8	Is capable of performing routine maintenance on network devices and information and communication system software

4. Competencies, the level of formation of which must be checked in the course of the state final certification

Index	Content of competence
UK-(No)	Universal Competencies
UK-1	Is able to search, critically analyze and synthesize information, apply a systematic approach to solving problems.
UK-2	Is able to determine the range of tasks within the framework of the goal and choose the best ways to solve them, based on the current legal norms, available resources and restrictions.
UK-3	Is able to carry out social interaction and fulfill his role in a team.
UK-4	Is able to carry out business communication in oral and written forms in the state language of the Russian Federation and foreign language(s).
UK-5	Is able to perceive the intercultural diversity of society in socio-historical, ethical and philosophical contexts.
UK-6	Is able to manage his time, build and implement a trajectory of self-development based on the principles of lifelong learning.
UK-7	Is able to maintain the proper level of physical fitness to ensure full social and professional activities
UK-8	Is able to create and maintain safe living conditions, including in the event of emergencies.

Index	Content of competence
UK-9	Is able to make informed economic decisions in various areas of life
UK-10	Is able to form an intolerant attitude towards corrupt behavior
OPK-(No)	General professional competencies
OPK-1	Is able to use the provisions, laws and methods of natural sciences and mathematics to solve problems of engineering activities.
OPK-2	Is able to independently conduct experimental research and use the basic methods of processing and presenting the data obtained.
OPK-3	Is able to apply methods of searching, storing, processing, analyzing and presenting information from various sources and databases in the required format, while observing the basic requirements of information security.
OPK-4	Is able to understand the principles of modern information technologies and use them to solve the problems of professional activity.
OPK-5	Is able to develop algorithms and computer programs suitable for practical application.
PK-(No)	Professional competencies
	Project activities
PK-1	Is capable of developing switching subsystems and network platforms, data transmission networks, transport networks and radio access networks, satellite communication systems.
PK-2	Is able to apply modern theoretical and experimental research methods in order to create new promising means of infocommunications, use and implementation of research results
PK-3	Is able to carry out calculations on the design of networks, structures and infocommunication tools in accordance with the terms of reference using both standard methods, techniques and design automation tools, and independently created original programs
PK-4	Is able to prepare standard technical projects and primary control of compliance of developed projects and technical documentation for various information and communication facilities with national and international standards and technical regulations
	Technological activities
PK-5	Is able to carry out installation, configuration, adjustment, testing of equipment, development of operating modes, control of design parameters of operation and testing of communication equipment, ensuring compliance of technical parameters of information and communication systems and / or their components with established operational and technical standards
PK-6	Is able to administer network subsystems of infocommunication systems and/or their components
PK-7	Is capable of administering remote access security tools (operating systems and specialized protocols)

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PK-8	Is capable of performing routine maintenance on network devices and information and communication system software