

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION
Federal State Autonomous Educational Institution
higher education
NORTH CAUCASIAN FEDERAL UNIVERSITY

I APPROVE

Dean of the Faculty of Mathematics
and computer science named after
Professor N.I. Chervyakov,
Candidate of Physical and
Mathematical Sciences, Associate
Professor
Grobova T.A.

WORKING PROGRAM OF THE DISCIPLINE

Organization of protection of confidential information / Организация защиты
конфиденциальной информации

Direction of training	02.04.01 Mathematics and Computer Science
Profile	Training Program for Electronic Information
Year of commencement of studies	<u>2026</u>
Form of study	full-time
Implemented in the 3rd semester	

DEVELOPED BY:

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Computational Mathematics and
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Sciences,
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Stavropol, 2026

1. The purpose and objectives of mastering the discipline:

The purpose of mastering the discipline Organization of protection of confidential information / Организация защиты конфиденциальной информации is to form the future master's degree in the field of training 02.04.01 Mathematics and computer science profile " Training Program for Electronic Information » improvement of knowledge, skills and abilities .

2. The place of the discipline in the structure of the educational program

The course "Organization of protection of confidential information / Организация защиты конфиденциальной информации" is part of the elective courses (modules) developed by participants in educational relationships. It is completed in the third semester.

3. List of planned learning outcomes for the discipline, correlated with the planned learning outcomes for the educational program

Code, formulation of competence	Code, indicator formulation	Planned learning outcomes for the discipline, characterizing the stages of formation of competencies, indicators
ОПК-1 Able to assess the role of information, information technology and information security in modern society, their importance for meeting the objective needs of the individual, society and the state	ID-1 ОПК-1 understands the role of information security in the Russian Federation's national security system and the forms of information warfare in the modern world	is familiar with the basic concepts associated with ensuring information and psychological security of the individual, society and the state, the concepts of information warfare, information warfare and the forms of their manifestation in the modern world
	ID-2 ОПК-1 identifies and classifies information security threats to modern automated systems	analyzes sources and classifies and assesses information security threats

4. Volume of the academic discipline (module) and forms of control *

Amount of classes: total: 2 credits , 72 academic hours .	OFO, in academic hours
Contact work:	
Lectures/including practical training	18
Laboratory work /including practical training	0
Practical classes /including practical training	18
Independent work	36
Forms of control	
Exam	-
Credit 3 semester	
Credit with grade	-
Coursework	No

* The course (module) involves the use of e-learning and distance learning technologies

5. The content of the discipline, structured by topics (sections) indicating the number of academic hours and types of classes allocated to them

No .	Section (topic) of the discipline and brief content	Developed competencies, indicators	full-time education				Forms of ongoing monitoring of academic performance
			Contact work of students with a teacher/of which in the form of practical training, hours			Independent work, hours	
			Lectures	Practical classes	Laboratory work		
1	The system of organizational and legal support for information security Information as an object of protection from special electromagnetic influences. Technical means of information processing as objects of protection from special electromagnetic influences.	ID-1 OPK-1 ID-2 OPK-1	2 . 0	2 . 0		4 . 0	Interview
2	Legal basis for information security Information security threats from special electromagnetic influences. Threat models.	ID-1 OPK-1 ID-2 OPK-1	2 . 0	2 . 0		4 . 0	Interview
3	Measures, methods and means of information protection The mechanism of influence of electromagnetic and electrical effects on technical means of information processing.	ID-1 OPK-1 ID-2 OPK-1	2 . 0	2 . 0		4 . 0	Interview
4	Programming arithmetic algorithms Principles of using shielding and absorbing properties of various materials to protect information from electromagnetic influences.	ID-1 OPK-1 ID-2 OPK-1	2 . 0	2 . 0		4 . 0	Interview

5	Programming algebraic algorithms Principles of using filtering and absorbing devices and materials to protect information from electrical influences .	ID-1 _{OPK-1} ID-2 _{OPK-1}	2 . 0	2 . 0		4 . 0	Interview
6	Protection against bookmarks during program development Measures and means for protecting confidential information from special electromagnetic and electrical influences	ID-1 _{OPK-1} ID-2 _{OPK-1}	2 . 0	2 . 0		4 . 0	Interview
7	Programming algorithms for public-key cryptosystems Planning of work on technical specifications. The essence, goals, and objectives of planning .	ID-1 _{OPK-1} ID-2 _{OPK-1}	2 . 0	2 . 0		4 . 0	Interview
8	Prevention of computer system virus infections The procedure for developing, coordinating and approving plans for conducting events on TZKI .	ID-1 _{OPK-1} ID-2 _{OPK-1}	4 . 0	4 . 0		8 . 0	Interview
	TOTAL for 3rd semester		18.0	18.0	-	36.0	

6. Fund of assessment tools for the discipline (module)

The assessment toolkit (AST) for a course (module) is based on a list of mastered competencies with associated indicators. The AST provides objective monitoring of the achievement of planned learning outcomes. The AST includes:

- description of indicators and criteria for assessing competencies at various stages of their formation, description of assessment scales;
- methodological materials that define the procedures for assessing knowledge, skills, abilities and (or) work experience that characterize the stages of competencies formation (included in the methodological guidelines for those types of work that are provided for by the curriculum and provide for the assessment of the development of competencies);
- standard assessment tools necessary for assessing knowledge, skills and the level of development of competencies.

FOS is an appendix to this discipline (module) program.

7. Methodological guidelines for students on mastering the discipline

When starting work, each student should take into account the following provisions.

The discipline is structured on a thematic principle, with each topic representing a logically complete section.

The lecture material is devoted to the examination of key, basic provisions of the courses and an explanation of the educational assignments assigned to students for independent work.

Practical classes are conducted with the aim of consolidating the acquired information and acquiring skills for its application in solving practical problems in the relevant subject area .

Students' independent work is aimed at independent study of additional material, preparation for practical classes, and completion of all types of independent work.

To successfully master the discipline, it is necessary to complete all types of independent work using the recommended sources of information.

8. Educational, methodological and informational support of the discipline

8.1. List of basic and additional literature required for mastering the discipline

8.1.1. List of main literature:

1. Electronic warfare. Force defeat of radio-electronic systems / V.D. Dobykin , A.I. Kupriyanov, V.G. Ponomarev, L.N. Shustov; under. ed. A.I. Kupriyanova. - M.: University Book, 2007.
2. Methods and means of protecting computer information: a textbook, manual / I.V. Anikin, V.I. Glova. - Kazan, Publishing house of KSTU named after A.N. Tupolev, 2008.
3. Fundamentals of Information Security: a textbook, manual / N.V. Medvedev, V.V. Badanin, O.A. Akulov - M.: Publishing house of the Moscow State University named after N.E. Bauman, 2008.
4. Powerful electromagnetic pulse impact on electronic means and methods of protection / N.V. Balyuk . L.N. Kechiev , P.V. Stepanov - K IDT Group, 2008.
5. Shielding of technical means and shielding systems L.N. Kechiev , B.B. Akbashev , P.V. Stepanov. - M. IDT Group, 2010;
6. Belov E.B., Los V.P., Meshcheryakov R.V., Shelupanov A.A. Fundamentals of Information Security. - M.: Hotline - Telecom, 2006.
7. Zaitsev A.P., Shelupanov A.A., Meshcheryakov R.V. et al. Technical means and methods of information protection: textbook, manual for university students.
8. Under the editorship of A.P. Zaitsev and A.A. Shelupanov . 4th edition , corr . and add. - M.: Goryachaliniya -Telecom, 2009. A.A. Khorev . Technical information security: Textbook, manual for students of higher education institutions. In 3 volumes. - M.: Scientific and Production Center "Analytics", 2010;

8.1.2. List of additional literature :

1. Powerful ultra-short-pulse and ultra-wideband electromagnetic radiation and their interference: in: e and damaging effects on electronic equipment for transmitting, receiving, processing and storing information: monograph / edited by V. G. Gerasimenko, V. B. Avdeev, A. Berdyshev. - Voronezh: Nauchnaya kniga, 2008.
2. Sakharov K. Yu. Emitters of ultrashort electromagnetic pulses and methods for measuring their parameters. – M MGIEM, 2006.
3. EMC and information security in telecommunication systems / L.N. Kechiev , P.V. Stepanov. - M.: Publishing house of Technology, 2005.
4. Special requirements and recommendations for the protection of confidential information (STR-K. Approved by the order of the State Technical Commission of Russia dated March 2, 2001, No. 282
5. Requirements for the protection of information that does not constitute a state secret, contained in state information systems Approved by order of the FSTEC of Russia dated February 11, 2013, No. 17.
6. GOST R 50922-2006. Information Security. Basic Terms and Definitions. Rostekhnregulirovanie, 2006.
7. GOST 51624-2000 Information Security. Automated Systems in Secure Design. General Requirements. Moscow: Gosstandart of Russia, 2000.
8. GOST R 51275-2006. Information Security. Informatization Objects. Factors Affecting Information. General Provisions. – Moscow: Rostekhnregulirovanie , 2006.
9. GOST R 56093-2014. Information Security. Automated Systems in Protected Design. Means of Detecting Intentional Electromagnetic Impacts. General Requirements. Rosstandart 2014.
10. GOST R 56103-2014 Information Security. Automated Systems in Secure Design. Organization and Contents of Work on Protection from Intentional Electromagnetic Impacts. General Provisions. Rosstandart, 2014.
11. GOST R 56115-2014. Information Security. Automated Systems in Protected Design. Means of Protection against Intentional Electromagnetic Impacts. General Requirements. Rosstandart, 2014.

8.2. List of educational and methodological support for independent work of students in the discipline

1. Guidelines for organizing independent student work in the discipline "Organizing the protection of confidential information." Stavropol: SKFU, 2026 .
2. Guidelines for practical classes in the discipline "Organization of Confidential Information Protection". Stavropol: SKFU, 2026 .

8.3. List of resources of the information and telecommunications network "Internet" necessary for mastering the discipline

www.biblioclub.ru - Electronic library system "University Library Online"
www.eLibrary.ru - Scientific Electronic Library
IPRbooks Electronic Library System

9. List of information technologies used in the implementation of the educational process in the discipline, including a list of software and information reference systems

Lectures utilize computer technology and multimedia presentations. During practical classes, students present reports on work they complete independently or in teams using computer technology and internet technologies.

Information reference systems:

Information and reference and information and legal systems used in the study of the discipline:

1	https://www.garant.ru/
2	http://www.consultant.ru/

Software:

1	Operating System: Microsoft Windows 8: Perpetual License. Agreement No. 01-ea/13 dated February 25, 2013.
2	Operating system: Microsoft Windows 10: Perpetual license. Agreement No. 544-21 dated June 8, 2021.
3	Base plastic bag Microsoft Office programs (Word, Excel, PowerPoint). Microsoft Office Standard 2013: agreement No. 01- ea /13 dated February 25, 2013 , Microsoft Office License https://support.microsoft.com/ru-ru/lifecycle/search/16674

10. Description of the material and technical base necessary for the implementation of the educational process in the discipline

Lectures classes	A classroom for conducting classes, equipped with multimedia equipment and technical teaching aids.
Practical classes	A classroom for conducting classes, equipped with multimedia equipment and technical teaching aids.
Independent work	A room for independent student work equipped with computers and the ability to connect to the Internet and access the university's electronic information and educational environment.

11. Features of mastering the discipline (module) by persons with disabilities

Students with disabilities are provided with special textbooks, teaching aids and didactic materials, special technical teaching aids for collective and individual use, the services of an assistant (helper) who provides students with the necessary technical assistance, as well as the services of sign language interpreters and tactile sign language interpreters .

The acquisition of a discipline (module) by students with disabilities can be organized jointly with other students, as well as in separate groups.

The acquisition of a discipline (module) by students with disabilities is carried out taking into account the characteristics of psychophysical development, individual capabilities and health status.

In order to ensure accessibility of higher education under the educational program for individuals with disabilities, the following is provided when mastering a discipline (module):

1) for persons with visual impairments:

- the presence of an assistant who provides the student with the necessary technical assistance, taking into account individual characteristics (helps to take up a workstation, move around, read and complete assignments, including taking down dictation),
- written assignments, as well as instructions on how to complete them, are written in large print,
- special textbooks, teaching aids and didactic materials (with large print or audio files),
- individual uniform illumination of at least 300 lux,
- if necessary, the student is provided with a magnifying device to complete the assignment;

2) for persons with hearing impairments:

- the presence of an assistant who provides the student with the necessary technical assistance, taking into account individual characteristics (helps to take up a workstation, move around, read and complete assignments, including taking down dictation),
- the availability of sound amplification equipment for collective use is ensured; if necessary, the student is provided with sound amplification equipment for individual use;

- is provided with appropriate sound means for reproducing information;
- 3) for persons with disabilities who have musculoskeletal disorders (including severe impairments of the motor functions of the upper limbs or the absence of upper limbs):
 - written assignments are completed on a computer with specialized software or dictated to an assistant;
 - at the student's request, assignments can be completed orally.

12. Features of the implementation of the discipline using distance learning technologies and e-learning

According to Part 1 of Article 16 of Federal Law No. 273-FZ of December 29, 2012, "On Education in the Russian Federation," *e-learning* is defined as the organization of educational activities using information contained in databases and used in the implementation of educational programs, as well as information technologies, technical means, and information and telecommunications networks that facilitate the transmission of said information over communication lines, as well as interaction between students and teaching staff. *Distance learning technologies* are educational technologies implemented primarily using information and telecommunications networks through indirect (remote) interaction between students and teaching staff.

The course may be delivered using distance learning technologies and e-learning, in whole or in part. The components of the course's teaching and methodological kit (the course curriculum, assessment and methodological materials, and assessment forms) implemented using distance learning technologies and e-learning contain instructions for their use.

When organizing educational activities using distance learning technologies and e-learning, asynchronous and synchronous methods of interaction between participants in educational relations may be provided through the Internet information and telecommunications network.

When using distance learning technologies and e-learning, the curriculum for the discipline shall indicate: methods of interaction between participants in educational relations via the Internet (videoconferencing, electronic testing); links to the SKFU electronic information and educational environment, to educational platforms and resources of other organizations that are openly accessible via the Internet ; for synchronous learning - the time of online classes and teachers; for asynchronous learning - the authors of online courses.

When organizing midterm assessments using distance learning technologies and e-learning, the Methodological Recommendations for the Use of Technical Means Ensuring the Objectivity of Results during Midterm and State Final Assessments for Higher Education Programs—Bachelor's Degree Programs, Specialist Programs, and Master's Degree Programs Using Distance Learning Technologies—are used (Letter of the Ministry of Education and Science of Russia dated December 7, 2020, No. MN-19/1573-AN " On the Submission of Methodological Recommendations").

The implementation of the discipline with the use of e-learning and distance learning technologies is carried out using the electronic information and educational environment of SKFU, to which students have access via the information and telecommunications network "Internet", or using the resources of other organizations, including platforms that provide services for video conferencing, online meetings and distance learning (MTS- Link), as well as using the capabilities of social networks for communication between students and teachers.

The educational and methodological support for a discipline implemented using e-learning and distance learning technologies includes a work program, educational and methodological manuals or a course of lectures, methodological instructions for the implementation of various types of educational activities of students provided for by the discipline, and other educational and methodological materials posted in the information and educational environment of SKFU, presented in electronic form.

