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Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University

Academy of Engineering
educational division (faculty/institute/academy) as higher education programme developer

Approved at the meeting of the Academic Council of RUDN University Protocol No. 3 February 10, 2025 (date, month, year)	Opened by order of the Rector of RUDN University No. 101 March 03, 2025 (date, month, year)

PROFESSIONAL EDUCATION PROGRAMME OF HIGHER EDUCATION

Field of Studies/ Speciality:

27.03.04 Control in Technical Systems
field of studies / speciality code and title

Profile/Specialisation:

Data Science and Space Systems
higher education programme title

The Educational Programme is developed in compliance with:
Educational Standard of RUDN University, approved by Order of the Rector No. 371 dated May 21, 2021

Level of education:

bachalor's
(bachelor's / specialist's / master's – to fill in the required)

Graduate's Qualification:

Bachalor
(graduate's qualification in compliance with the order of the Ministry of Education and Science of Russian Federation dated September 12, 2013, No. 1061)

Length of Educational Programme:

4 years		
(full-time education)	(part-time education)	(correspondence education)

AGREED by:

Head of Educational Programme	Chairperson of Didactic Council	Head of Educational Department
Yu.N. Razoumny	**Yu.N. Razoumny**	**Yu.N. Razoumny**
(signature)	(signature)	(signature)
(day, month, year)	(day, month, year)	(day, month, year)

2025

1. The purpose (mission) of the Educational Program

The program is aimed at training highly qualified specialists in the fields of science and technology related to the study of intelligent control systems for various purposes, including in the space industry, their components, service maintenance and operation, creation and support of software for the study of automatic and automated control systems, as well as data engineering.

During the training, students undergo theoretical and practical training in order to develop general cultural, general professional and professional competencies. Students acquire research skills that allow them to carry out professional activities in management positions in Russian and international companies specializing in the operation, maintenance, repair and service of intelligent control systems for various purposes, including in the rocket and space industry, in research organizations.

2. Relevance, specificity, uniqueness of the educational program

The relevance of this program is due to the high demand for data engineering specialists due to the introduction of intelligent information systems to solve management problems. This topic is socially significant and in demand among young people. Thus, the focus of the program not only on information technology in management, but also on the training of highly qualified specialists in the fields of science and technology related to control in space systems is relevant and timely. A graduate of the program is called upon to be able to solve a whole range of complex computational, mathematical and technical problems that arise during the development and implementation of projects related to information systems, including their security, this is especially relevant for enterprises in the rocket and space industry. This requires deep knowledge in the field of information security theory, and in the field of computer technology and programming, and in the engineering field.

The program is implemented in person.

The program is aimed at training specialists according to professional standards: 25.015 “Specialist in the development of flight control systems for launch vehicles and spacecraft”, 25.017 “Specialist in the provision of space services based on the use of remote sensing data”.

The standard period for mastering the main educational program in the bachelor's degree program 27.03.04 Control in technical systems in full-time education is 4 years.

The volume of the program is 240 credit units (hereinafter referred to as CU). The volume of the bachelor's degree program, implemented in one academic year, is 60 CU.

3. The labor market needs for training personnel in the profile of the EP HE

Graduates who have completed this program are oriented towards work in Russian and international companies specializing in information technologies, as well as the operation of automatic control systems for various purposes: design, manufacturing, operating organizations, research centers, higher education institutions, etc., including companies in the rocket and space industry.

4. Special requirements for potential applicants

For admission to the program, the Admission Rules apply, approved by the relevant local regulatory act and posted in the public domain on the official website of RUDN.

5. Features of the implementation of the EP HE

5.1. The EP HE is implemented with the possibility of using remote
educational technologies and using elements of e-learning through the RUDN University Telecommunication Educational and Information System (TUIS).

5.2. The language of implementation of the educational program is English.

5.3. If necessary, the educational program of higher education can be adapted for training
disabled people and people with disabilities. Elements
e-learning and distance learning technologies,
used in the training of disabled people and people with disabilities, provide
the ability to receive and transmit information in forms accessible to them.

5.4. The educational program of higher education is implemented by the Federal State Autonomous Educational Institution of Higher Education “Russian Friendship University”
peoples named after Patrice Lumumba"

5.5. Information on the planned bases for conducting educational/industrial practices and/or research

Practice*	**Base for conducting practice** *(name of organization, location)*
Research work (acquiring primary skills in research work) (academic, full-time)	Department of Mechanics and Control Processes of the RUDN Engineering Academy (Moscow), Flight Control Training Center of the RUDN University (Moscow)
Technological practice (industrial, on-site)	NPO "Eshelon" (Moscow) Kaspersky Lab (Moscow); JSC "Astronomical Research Center" (Moscow); JSC Research Institute "Polyus" named after. M.F. Stelmakha" (Moscow); UNIDO Centre for International Industrial Cooperation in the Russian Federation (Moscow)
Pre-graduation practice (industrial, field, in-patient)	NPO "Eshelon" (Moscow) JSC "Astronomical Research Center" (Moscow); Department of Mechanics and Control Processes of the RUDN Engineering Academy (Moscow), Flight Control Training Center of the RUDN University (Moscow)

6. CHARACTERISTICS OF PROFESSIONAL ACTIVITIES

GRADUATE OF THE EP

6.1. The area(s) and/or sphere(s) of professional activity of a graduate who has mastered the educational program of higher education, in which he/she can carry out his/her professional activity:

in the area of deployment, maintenance, optimization of database operation, creation (modification) and maintenance of information systems, maintenance in working condition with a given quality of information and communication systems and (or) their components;

in the field of design, modification and maintenance of information systems that automate the processes of design and technological preparation for production in the rocket and space industry.

6.2. Type(s) of professional activity tasks for which the graduate is preparing to solve within the framework of mastering the educational program of higher education:

– research (main);

6.3. List of generalized work functions and work functions related to the professional activities of a graduate of the higher education program, in accordance with which the program was developed*

Code and name of the professional standard	**Generalized labor functions**			**Labor functions**		
	code	Name	level of qualification	Name	code	qualification level (sub-level)
25.015 "Specialist in the development of flight control systems for launch vehicles and spacecraft"	WITH	Development of schematic documentation for the flight control system of launch vehicles and spacecraft	6			
25.017 "Specialist in the provision of space services based on the use of remote sensing data"	A	Carrying out individual technological operations for the creation of space products and provision of space services based on the use of remote sensing data	6			

* - the formulation of work functions is taken from the relevant Professional

Standards.

7. Requirements for the results of mastering the EP HE

7.1. Upon completion of the EP HE, the graduate must have the following universal competencies (UC):

Code and name of the UC	Code and name of the indicator of achievement of competence
UC-1. Capable of searching, critically analyzing and synthesizing information, and applying a systematic approach to solving assigned tasks.	UC-1.1. Analyzes the task, identifying its basic components; UC-1.2. Defines and ranks the information required to solve the assigned task; UC-1.3. Conducts a search for information to solve the assigned task using various types of requests; UC-1.4. Works with scientific texts, distinguishes facts from opinions, interpretations, assessments and substantiates his conclusions using the philosophical conceptual apparatus; UC-1.5. Analyzes and contextually processes information to solve assigned tasks while forming their own opinions and judgments; UC-1.6. Suggests options for solving the problem, analyzes the possible consequences of their use; UC-1.7. Analyzes ways of solving problems of ideological, moral and personal nature based on the use of basic philosophical ideas and categories in their historical development and socio-cultural context.
UC-2. Capable of defining a range of tasks within the framework of a set goal and choosing the best ways to solve them, based on current legal norms, available resources and limitations	UC-2.1. Formulates a problem, the solution of which is directly related to achieving the project goal; UC-2.2. Defines the connections between the tasks set and the expected results of their solution; UC-2.3. Within the framework of the set tasks, determines the available resources and limitations, current legal norms; UC-2.4. Analyzes the project implementation schedule as a whole and selects the optimal way to solve the tasks set, based on current legal regulations and available resources and limitations; UC-2.5 Monitors the progress of the project, adjusts the schedule in accordance with the monitoring results.
UC-3. Capable of social interaction and fulfilling his/her role in a team	UC-3.1. Determines his/her role in the team based on the strategy of cooperation to achieve the set goal; UC-3.2. Formulates and takes into account in its activities the behavioral characteristics of groups of people, identified depending on the set goal; UC-3.3. Analyzes the possible consequences of personal actions and plans his actions to achieve a given result; UC-3.4. Carries out the exchange of information, knowledge and experience with team members; UC-3.5. Argues his point of view regarding the use of ideas of other team members to achieve the set goal; UC-3.6. Participates in teamwork to carry out assignments.
UC-4. Capable of communication in interpersonal and intercultural interaction in Russian (as a foreign language) and foreign language(s) based	UC-4.1. Selects a style of business communication, depending on the language of communication, the purpose and conditions of the partnership; UC-4.2. Adapts speech, communication style and sign language to interaction situations;

Code and name of the UC	Code and name of the indicator of achievement of competence
on proficiency in interconnected and interdependent types of reproductive and productive foreign language speech activity, such as listening, speaking, reading, writing and translation in everyday, socio-cultural, educational and professional, official business and scientific spheres of communication.	UC-4.3. Searches for the necessary information to solve standard communication tasks in Russian and foreign languages; UC-4.4. Performs translation of professional texts from a foreign language into Russian and vice versa; UC-4.5. Conducts business correspondence in Russian and foreign languages, taking into account the stylistic features of official and unofficial letters and socio-cultural differences in the format of correspondence; UC-4.6. Uses dialogue for cooperation in academic communication, taking into account the personality of the interlocutors, their communicative speech strategy and tactics, and the degree of formality of the situation; UC-4.7. Forms and argues his/her own assessment of the main ideas of the participants in the dialogue (discussion) in accordance with the needs of the joint activity.
UC-5. Able to perceive the intercultural diversity of society in socio-historical, ethical and philosophical contexts.	UC-5.1. Interprets the history of Russia in the context of world historical development; UC-5.2. Finds and uses information about the cultural characteristics and traditions of various social groups in social and professional communication; UC-5.3. Takes into account, in social and professional communication on a given topic, the historical heritage and socio-cultural traditions of various social groups, ethnic groups and faiths, including world religions, philosophical and ethical teachings UC-5.4. Collects information on a given topic, taking into account the ethnic groups and religions most widely represented at the research sites. UC-5.5 Substantiates the specifics of project and team activities with representatives of other ethnic groups and (or) faiths UC-5.6 Adheres to the principles of non-discriminatory interaction in personal and mass communication in order to fulfill professional tasks and strengthen social integration
UC-6. Able to manage their time, build and implement a trajectory of self-development based on the principles of lifelong education	UC-6.1. Controls the amount of time spent on specific activities UC-6.2. Develops tools and methods for time management when performing specific tasks, projects, and goals UC-6.3. Analyzes his resources and their limits (personal, situational, temporary, etc.) for the successful completion of the assigned task. UC-6.4. Finds and uses sources of additional information to improve the level of general and professional knowledge UC-6.5. Analyzes the main opportunities and tools of continuous education in relation to their own interests and needs, taking into account the conditions, resources, personal capabilities, stages of career growth, time perspective of development of activities and requirements of the labor market UC-6.6. Defines the tasks of self-development, goals and priorities of professional growth UC-6.7. Distributes tasks into long-, medium- and short-term ones with justification of relevance and analysis of resources for their implementation

Code and name of the UC	Code and name of the indicator of achievement of competence
UC-7. Able to maintain the proper level of physical fitness to ensure full social and professional activity	UC-7.1. Selects health-saving technologies to maintain a healthy lifestyle, taking into account the physiological characteristics of the body UC-7.2. Plans his/her working and free time for the optimal combination of physical and mental load and ensuring efficiency UC-7.3. Observes and promotes healthy lifestyle standards in various life situations and in professional activities"
UC-8. Capable of creating and maintaining safe living conditions in everyday life and professional activities to preserve the natural environment, ensure sustainable development of society, including in the event of a threat or occurrence of emergency situations and military conflicts	UC-8.1. Analyzes factors of harmful influence on the life activity of elements of the living environment (technical means, technological processes, materials, buildings and structures, natural and social phenomena) UC-8.2. Identifies hazardous and harmful factors within the framework of the task being performed UC-8.3. Identifies and eliminates problems related to safety violations in the workplace UC-8.4. Explains measures to prevent emergency situations UC-8.5. Explains the rules of conduct in the event of emergencies of natural and man-made origin, as well as in the event of military conflicts UC-8.6. Provides first aid, participates in recovery activities
UC-9. Able to use basic defectological knowledge in social and professional spheres	UC-9.1. Has an understanding of the principles of non-discriminatory interaction in communication in various spheres of life, taking into account the socio-psychological characteristics of persons with disabilities UC-9.2. Plans and carries out professional activities with persons with disabilities or limited health capabilities UC-9.3. Interacts with persons with limited health capabilities or disabilities in the social and professional spheres
UC-10. Capable of making informed economic decisions in various areas of life	UC-10.1. Understands the basic principles of the functioning of the economy and economic development, the goals of the form of state participation in the economy UC-10.2. Applies methods of personal economic and financial planning to achieve current and long-term financial goals UC-10.3. Uses financial instruments to manage personal finances (personal budget), controls own economic and financial risks
UC-11. Capable of forming an intolerant attitude towards manifestations of extremism, terrorism, corrupt behavior and counteracting them in professional activities	UC-11.1. Analyzes current legal norms that ensure the fight against corruption, terrorism and extremism in various areas of life, and also knows ways to prevent corruption, extremism and terrorism in the implementation of professional activities UC-11.2. Plans, organizes and conducts events within the framework of professional activities aimed at forming a civic position and preventing manifestations of extremism, terrorism and corruption in society UC-11.3. Complies with the rules of public interaction based on compliance with current legislation and an intolerant attitude towards manifestations of extremism, terrorism and corruption in society
UC-12. Capable of: searching for the necessary sources of information and data,	UC-12.1. Searches for the necessary sources of information and data, perceives, analyzes, remembers and transmits information using digital means, as well as using algorithms when working

Code and name of the UC	Code and name of the indicator of achievement of competence
perceiving, analyzing, memorizing and transmitting information using digital means, as well as using algorithms when working with data obtained from various sources in order to effectively use the information obtained to solve problems; evaluating information, its reliability, building logical conclusions based on incoming information and data	with data obtained from various sources in order to effectively use the information obtained to solve problems UC-12.2. Conducts an assessment of information, its reliability, builds logical conclusions based on incoming information and data

7.2. Upon completion of the EP of higher education, the graduate must have the following general professional competencies (GPC):

Code and name of the GPC	Code and name of the indicator of achievement of competence
GPC-1 Capable of analyzing the tasks of professional activity based on provisions, laws and methods in the field of natural sciences and mathematics	GPC-1.1 Has basic knowledge obtained in the field of mathematics and/or natural sciences GPC-1.2 Knows how to use them in professional activities GPC-1.3 Has the skills to select methods for solving professional problems based on theoretical knowledge
GPC-2 Capable of formulating tasks of professional activity based on knowledge, specialized sections of mathematical and natural science disciplines (modules)	GPC-2.1 Has a command of mathematical methods, programming fundamentals and specialized programming systems for implementing algorithms for solving applied problems GPC-2.2 Able to select and adapt mathematical methods and software to solve practical problems GPC-2.3 Possesses skills in developing and implementing algorithms for solving applied problems in the field of professional activity
GPC-3 Capable of using fundamental knowledge to solve basic control problems in technical systems in order to improve professional activities	GPC-3.1 Knows the theoretical foundations and principles of mathematical modeling GPC-3.2 Able to develop and use methods of mathematical modeling, information technologies to solve problems of applied mathematics GPC-3.3 Possesses practical skills in solving problems of applied mathematics, methods of mathematical modeling, information technologies and the basics of their use in professional activities, skills of professional thinking and an arsenal of methods and approaches necessary for the adequate use of methods of modern mathematics in theoretical and applied problems
GPC-4 is capable of assessing the effectiveness of control systems developed on the basis of mathematical methods	GPC-4.1 Knows the basic requirements of information security, existing information and communication technologies GPC-4.2 Able to solve professional tasks using information and communication technologies and taking into account the basic requirements of information security GPC-4.3 Possesses skills in using existing information technologies to solve professional tasks

Code and name of the GPC	Code and name of the indicator of achievement of competence
GPC-5 is capable of solving problems of development of science, engineering and technology in the field of control in technical systems, taking into account the legal regulation in the field of intellectual property	GPC-5.1 Knows the theoretical foundations of digital technologies, the basics of modeling objects of professional activity, the basics of data analysis and information presentation GPC-5.2 Able to solve professional tasks using existing methods of modeling, data analysis, and information presentation GPC-5.3 Possesses skills in developing algorithms and computer programs suitable for practical application
GPC-6 Capable of developing and using algorithms and programs, modern information technologies, methods and means of control, diagnostics and management, suitable for practical application in the field of their professional activity	GPC-6.1 Knows the basic algorithms and programs, modern information technologies, methods and means of control, diagnostics and management, suitable for practical application in the field of his professional activity GPC-6.2 Able to apply algorithms and programs, modern information technologies, methods and means of control, diagnostics and management, suitable for practical application in the field of his professional activity GPC-6.3 Confidently masters algorithms and programs, modern information technologies, methods and means of control, diagnostics and management, suitable for practical application in the field of his professional activity
GPC-7 is capable of performing the necessary calculations of individual units and devices of control, automation and management systems, selecting standard automation, measuring and computing equipment when designing automation and management systems	GPC-7.1 Knows the procedure for making the necessary calculations for individual units and devices of control, automation and management systems, and selects standard automation, measuring and computing equipment when designing automation and management systems GPC-7.2 Able to perform the necessary calculations of individual units and devices of control, automation and management systems, select standard automation, measuring and computing equipment during designautomation and control systems GPC-7.3 Proficient in technologies for performing calculations of individual units and devices of control, automation and management systems, selecting standard automation, measuring and computing equipment when designing automation and management systems
GPC-8 Capable of adjusting measuring and control equipment and complexes, and performing their routine maintenance	GPC-8.1 Knows the parameters and characteristics of measuring and control equipment and complexes GPC-8.2 Able to perform routine maintenance of measuring and control equipment and complexes GPC-8.3 Provides adjustment of measuring and control equipment and complexes and their routine maintenance
GPC-9 is capable of performing experiments according to specified methods and processing the results using modern information technologies and technical means.	GPC-9.1 Knows modern information technologies and technical means GPC-9.2 Able to apply modern information technologies and technical means to process experimental results GPC-9.3 Has mastered modern information technologies and technical means for performing experiments and processing results
GPC-10 Capable of developing (based on current standards) technical documentation (including in electronic form) for routine	GPC-10.1 Knows current standards for developing technical documentation for routine maintenance of control, automation and management systems and equipment GPC-10.2 Knows the basic approaches to developing technical documentation (including in electronic form) for routine maintenance

Code and name of the GPC	Code and name of the indicator of achievement of competence
maintenance of control, automation and management systems and equipment	of control, automation and management systems and equipment GPC-10.3 Possesses skills in developing (based on current standards) technical documentation (including in electronic form) for routine maintenance of control, automation and management systems and equipment
GPC-11 Able to understand the principles of operation of modern information technologies and use them to solve problems of professional activity	GPC-11.1 Knows digital methods and technologies used in professional activities GPC-11.2 Able to apply digital methods and technologies in professional activities to study and model objects of professional activity, analyze data, and present information GPC-11.3 Confidently uses digital methods and technologies in professional activities (in the field of control in technical systems) for: studying and modeling objects of professional activity, data analysis, and information presentation

7.3. List of professional competencies (PC)* that a graduate who has fully mastered the educational program of higher education must possess:

Code and name of the UC	Code and name of the indicator of achievement of competence	Code and name of the professional standard,on the basis of which the PC was formulated
research		
PC-1 Capable of collecting, processing and interpreting modern scientific research data necessary for drawing conclusions on relevant scientific research, including Earth remote sensing data	PC-1.1 Knows modern methods of collecting, processing and interpreting modern scientific research data necessary to form conclusions on relevant scientific research PC-1.2 Able to apply modern methods and tools for processing and interpreting scientific research data PC-1.3 Possesses the basic skills of collecting, processing and interpreting modern scientific research data necessary for drawing conclusions on relevant scientific research	25.017 "Specialist in the provision of space services based on the use of remote sensing data"
PC-2 Capable of participating in the development of schematic documentation for the flight control system of launch vehicles and spacecraft, in the preparation of publications based on the results of research and development	PC-2.1 Knows the basic approaches to developing mathematical models of units, functional modules and devices for flight control systems of launch vehicles and spacecraft PC-2.2 Able to compile analytical reviews and scientific and technical reports based on the results of research and development PC-2.3 Has skills in designing functional units and blocks of flight control systems for launch vehicles and spacecraft	25.015 "Specialist in the development of flight control systems for launch vehicles and spacecraft"

PC-3 Capable of carrying out work on processing and analyzing information in the field of application of mathematical methods and information technologies in the field of application of remote sensing data of the Earth from space	PC-3.1 Knows the basic concepts in the field of application of mathematical methods and information technologies and application of remote sensing space systems PC-3.2 Able to solve analytical problems that offer a choice from a variety of relevant methods for solving problems, has skills in working with geographic information systems software packages PC-3.3 Possesses practical skills in solving problems related to obtaining, processing and applying remote sensing data of the Earth from space	25.017 "Specialist in the provision of space services based on the use of remote sensing data"
PC-4 Able to formulate, analyze and solve engineering problems in the field of ballistics, motion mechanics and spacecraft motion control based on professional knowledge	PC-4.1 Knows the basic concepts and basic algorithms for solving problems in the field of ballistics, motion mechanics and motion control based on automated and automatic systems PC-4.2 Able to solve engineering problems of an analytical nature in the field of ballistics, motion mechanics and control of spacecraft motion based on professional knowledge PC-4.3 Possesses skills in using mathematical methods for processing information obtained as a result of experimental research, basic methods for analyzing the mechanics of motion and controlling the motion of spacecraft based on standard methods and software packages	25.015 "Specialist in the development of flight control systems for launch vehicles and spacecraft"
PC-5 Able to develop, debug, test performance, modify software; apply software design methods and tools, develop and coordinate software documentation	PC-5.1 Knows existing system and application software, methods of designing and developing software, structures and databases, software interfaces. Knows regulatory and technical documentation for developing software documentation for software PC-5.2 Can apply methods and tools for designing software, data structures, databases, and software interfaces. Can analyze regulatory and technical documentation for developing software documentation. PC-5.3 Possesses basic skills in technologies for development, debugging, testing the functionality and modification of system application software, and upgrading technical solutions for software development	25.017 "Specialist in the provision of space services based on the use of remote sensing data"

8. Competency matrix

		Universal competencies											
	Name of disciplines (modules) in accordance with the curriculum	Able to search, critically analyze and synthesize information, apply a systematic approach to solving problems	Able to define a range of tasks within the framework of a set goal and select optimal ways to solve them, based on current legal regulations, available resources and limitations	Able to interact socially and fulfill his/her role in a team	Capable of communication in interpersonal and intercultural interaction in Russian (as a foreign language) and foreign language(s) based on proficiency in interconnected and interdependent types of reproductive and productive foreign language speech activity, such as listening, speaking	Able to perceive the intercultural diversity of society in socio-historical, ethical and philosophical contexts	Able to manage their time, build and implement a trajectory of self-development based on the principles of lifelong education	Able to maintain an adequate level of physical fitness to ensure full social and professional activity	Capable of creating and maintaining safe living conditions, including in the event of emergency situations	Able to use basic defectological knowledge in social and professional spheres	Able to make informed economic decisions in various areas of life	UC-11. Capable of forming an intolerant attitude towards manifestations of extremism, terrorism, corrupt behavior and counteracting them in professional activities	Capable of: searching for the necessary sources of information and data, perceiving, analyzing, memorizing and transmitting information using digital means, as well as using algorithms when working with data obtained from various sources in order to effectively use the information obtained to solve problems; evaluating information, its reliability, building logical conclusions based on incoming information and data
Index	**Mandatory part**	UC-1	UC-2	UC-3	UC-4	UC-5	UC-6	UC-7	UC-8	UC-9	UC-10	UC-11	UC-12
Block 1 B1.O.01	**Base Component / Base component**												
B1.O.01.01	History of Russia / History of Russia	UC-1.1UC-1.2UC-1.3 UC-1.4 UC-1.5 UC-1.6 UC-1.7				UC-5.1 UC-5.2 UC-5.3 UC-5.4 UC-5.5 UC-5.6	UC-6.4 UC-6.5 UC-6.6 UC-6.7				UC-10.1 UC-10.2 UC-10.3		

B1.O.01.02	History of religions in Russia / History of religions in Russia					UC-5.1 UC-5.2 UC-5.3 UC-5.4 UC-5.5 UC-5.6							
B1.O.01.03	Fundamentals of Russian Statehood / Fundamentals of Russian Statehood					UC-5.1 UC-5.2 UC-5.3 UC-5.4 UC-5.6							
B1.O.01.04	Mathematical Analysis / Mathematical Analysis												
B1.O.01.05	Algebra and Geometry / Algebra and Geometry												
B1.O.01.06	Physics / Physics												

B1.O.01.07	Basic military training. Life safety / Basics of military training. Life safety							UC-7.1 UC-7.2 UC-7.3	UC-8.1 UC-8.2 UC-8.3 UC-8.4 UC-8.5 UC-8.6	UC-9.1 UC-9.2 UC-9.3			
B1.O.01.08	Russian Language and Speech Culture / Russian language and speech culture				UC-4.1 UC-4.2 UC-4.3 UC-4.4 UC-4.5 UC-4.6 UC-4.7								
B1.O.01.09	Fundamentals of Engineering Economics and Management / Fundamentals of Engineering Economics and Management						UC-6.4 UC-6.5 UC-6.6 UC-6.7				UC-10.1 UC-10.2 UC-10.3		
B1.O.01.10	Theory of Probability and Mathematical Statistics												
B1.O.01.11	Differential Equations / Differential Equations												
B1.O.01.12	Complex Analysis												

B1.O.01.13	Psychology and Pedagogy / Psychology and Pedagogy			UC-3.1 UC-3.2 UC-3.3 UC-3.4 UC-3.5 UC-3.6			UC-6.4 UC-6.5 UC-6.6 UC-6.7			UC-9.1 UC-9.2 UC-9.3			
B1.O.01.14	Jurisprudence / Legal Science	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;	UC-2.1; UC-2.2; UC-2.3; UC-2.4; UC-2.5;						UC-8.1; UC-8.2; UC-8.3; UC-8.4; UC-8.5; UC-8.6;	UC-9.1; UC-9.2; UC-9.3;	UC-10.1; UC-10.2; UC-10.3;	UC-11.1; UC-11.2; UC-11.3;	
B1.O.01.15	Philosophy / Philosophy	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;				UC-5.1; UC-5.2; UC-5.3; UC-5.4; UC-5.5; UC-5.6;	UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;						
B1.O.01.16	Equations of Mathematical Physics / Equations of Mathematical Physics												
B1.O.01.17	Physical Culture / Physical Culture						UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;	UC-7.1; UC-7.2; UC-7.3;					
B1.O.01.DV.01.01	Russian as a Foreign Language / Russian language (as a foreign language)				UC-4.1 UC-4.2 UC-4.3 UC-4.4 UC-4.5 UC-4.6 UC-4.7								

B1.O.01.DV.01.02	Foreign Language / Foreign Language				UC-4.1 UC-4.2 UC-4.3 UC-4.4 UC-4.5 UC-4.6 UC-4.7								
B1.O.02	**Variable component**												
B1.O.02.01	Introduction to the Specialty / Introduction to the Specialty	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;					UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;						
B1.O.02.02	Computer Science and Programming / Computer Science and Programming												
B1.O.02.03	Fundamentals of Project Activities		UC-2.1; UC-2.2; UC-2.3; UC-2.4; UC-2.5;	UC-3.1; UC-3.2; UC-3.3; UC-3.4; UC-3.5; UC-3.6;			UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;						
B1.O.02.04	Fundamentals of Artificial Intelligence / Fundamentals of Artificial Intelligence											UC-11.1; UC-11.2; UC-11.3;	
B1.O.02.05	Theoretical Mechanics / Theoretical Mechanics												
B1.O.02.06	Space Flight Mechanics / Space Flight Mechanics												

B1.O.02.07	Analysis of Geoinformation Data / Analysis of Geoinformation Data												UC-12.1 UC-12.2
B1.O.02.08	Numerical Methods / Numerical Methods												
B1.O.02.09	Automatic Control Theory												UC-12.1 UC-12.2
B1.O.02.10	Optimal Control Methods / Methods of optimal control												UC-12.1 UC-12.2
B1.O.02.DV.01.01	Professional Russian (as a foreign language) / Russian language (as a foreign language) in professional				UC-4.1 UC-4.2 UC-4.3 UC-4.4 UC-4.5								
B1.O.02.DV.01.02	Foreign Language in Professional Activities / Foreign Language in Professional Activities				UC-4.1 UC-4.2 UC-4.3 UC-4.4 UC-4.5								
	The part formed by the participants of educational relations												
B1.V.DV.01.01	Applied Physical Education / Applied Physical Education							UC-7.1 UC-7.2 UC-7.3					
B1.V.DV.02.01	Discrete Mathematics / Discrete Mathematics												

B1.V.DV.02.02	Discrete Mathematics												
B1.V.DV.03.01	Fundamentals of information security and cyber resilience / Fundamentals of information security and cyber resilience												UC-12.1 UC-12.2
B1.V.DV.03.02	Fundamentals of Information Security and Cyber Resilience												UC-12.1 UC-12.2
B1.V.DV.04.01	Business Ethics / Business Ethics	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;				UC-5.1 UC-5.2 UC-5.3 UC-5.4 UC-5.5 UC-5.6							
B1.V.DV.04.02	Sociology / Sociology	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;				UC-5.1 UC-5.2 UC-5.3 UC-5.4 UC-5.5 UC-5.6							
B1.V.DV.04.03	Cultural Studies	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;				UC-5.1 UC-5.2 UC-5.3 UC-5.4 UC-5.5 UC-5.6							

B1.V.DV.04.04	Political science / Political science					UC-5.1 UC-5.2 UC-5.3 UC-5.4 UC-5.5 UC-5.6						UC-11.1; UC-11.2; UC-11.3;	
B1.V.DV.05.01	Virtual and Augmented Reality Technology / Virtual and Augmented Reality Technologies												
B1.V.DV.05.02	Virtual and augmented reality technologies												
B2.O.01	**Practice. Base Component / Base component**												
B2.O.01.01(U)	Research Work / Research work	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;	UC-2.1; UC-2.2; UC-2.3; UC-2.4; UC-2.5;	UC-3.1; UC-3.2; UC-3.3; UC-3.4; UC-3.5; UC-3.6;	UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;	UC-5.1; UC-5.2; UC-5.3; UC-5.4; UC-5.5; UC-5.6;	UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;	UC-7.1; UC-7.2; UC-7.3;	UC-8.1; UC-8.2; UC-8.3; UC-8.4; UC-8.5; UC-8.6;	UC-9.1; UC-9.2; UC-9.3;	UC-10.1; UC-10.2; UC-10.3;	UC-11.1; UC-11.2; UC-11.3;	UC-12.1; UC-12.2;
B2.O.02	**Variable Component / Variable Component**												
B2.O.02.01(N)	Research Work												UC-12.1; UC-12.2;

B2.O.02.02(P)	Technological Training / Technological Practice	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;	UC-2.1; UC-2.2; UC-2.3; UC-2.4; UC-2.5;	UC-3.1; UC-3.2; UC-3.3; UC-3.4; UC-3.5; UC-3.6;			UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;						UC-12.1; UC-12.2;
B2.O.02.03(Pd)	Undergraduate Training / Pre-graduation Internship	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;	UC-2.1; UC-2.2; UC-2.3; UC-2.4; UC-2.5;	UC-3.1; UC-3.2; UC-3.3; UC-3.4; UC-3.5; UC-3.6;	UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;	UC-5.1; UC-5.2; UC-5.3; UC-5.4; UC-5.5; UC-5.6;	UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;	UC-7.1; UC-7.2; UC-7.3;	UC-8.1; UC-8.2; UC-8.3; UC-8.4; UC-8.5; UC-8.6;	UC-9.1; UC-9.2; UC-9.3;	UC-10.1; UC-10.2; UC-10.3;	UC-11.1; UC-11.2; UC-11.3;	UC-12.1; UC-12.2;
Block 3	**State final certification**												
B3.01(G)	State Exam / State Exam	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;	UC-2.1; UC-2.2; UC-2.3; UC-2.4; UC-2.5;	UC-3.1; UC-3.2; UC-3.3; UC-3.4; UC-3.5; UC-3.6;	UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;	UC-5.1; UC-5.2; UC-5.3; UC-5.4; UC-5.5; UC-5.6;	UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;	UC-7.1; UC-7.2; UC-7.3;	UC-8.1; UC-8.2; UC-8.3; UC-8.4; UC-8.5; UC-8.6;	UC-9.1; UC-9.2; UC-9.3;	UC-10.1; UC-10.2; UC-10.3;	UC-11.1; UC-11.2; UC-11.3;	UC-12.1; UC-12.2;
B3.02(D)	Graduate Qualification Work / Design, preparation for the defense procedure and defense of the final qualification work	UC-1.1; UC-1.2; UC-1.3; UC-1.4; UC-1.5; UC-1.6; UC-1.7;	UC-2.1; UC-2.2; UC-2.3; UC-2.4; UC-2.5;	UC-3.1; UC-3.2; UC-3.3; UC-3.4; UC-3.5; UC-3.6;	UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;	UC-5.1; UC-5.2; UC-5.3; UC-5.4; UC-5.5; UC-5.6;	UC-6.1; UC-6.2; UC-6.3; UC-6.4; UC-6.5; UC-6.6; UC-6.7;	UC-7.1; UC-7.2; UC-7.3;	UC-8.1; UC-8.2; UC-8.3; UC-8.4; UC-8.5; UC-8.6;	UC-9.1; UC-9.2; UC-9.3;	UC-10.1; UC-10.2; UC-10.3;	UC-11.1; UC-11.2; UC-11.3;	UC-12.1; UC-12.2;
FTD	**Elective disciplines**												

FTD.01	Russian language for foreign students				UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;								
FTD.02	Theory and practice of translation				UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;								
FTD.03	Practical course of Russian language				UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;								
FTD.04	Second Foreign Language (practical course) / Second Foreign Language (practical course)				UC-4.1; UC-4.2; UC-4.3; UC-4.4; UC-4.5; UC-4.6; UC-4.7;								

		General professional competencies										
	Name of disciplines (modules) in accordance with the curriculum	Able to analyze control tasks in technical systems based on acquired knowledge	Able to formulate control problems in technical systems based on knowledge of specialized sections of mathematical and natural science disciplines	Able to use fundamental knowledge to solve basic management problems in technical systems in order to improve in professional activities	Capable of assessing the effectiveness of management systems developed on the basis of mathematical methods	Capable of solving problems of development of science, engineering and technology in the field of control in technical systems, taking into account legal regulation in the field of intellectual property	Capable of developing and using algorithms and programs, modern information technologies, methods and means of control, diagnostics and management, suitable for practical application in the field of his professional activity	Capable of making the necessary calculations of individual units and devices of control, automation and management systems, selecting standard automation, measuring and computing equipment when designing automation and management systems	Capable of adjusting measuring and control equipment and systems, and performing their routine maintenance	Capable of performing experiments according to specified methods and processing the results using modern information technologies and technical means	Capable of developing (based on current standards) technical documentation (including in electronic form) for routine maintenance of control, automation and management systems and equipment	Able to understand the principles of operation of modern information technologies and use them to solve problems of professional activity
Index	Mandatory part	GPC-1	GPC-2	GPC-3	GPC-4	GPC-5	GPC-6	GPC-7	GPC-8	GPC-9	GPC-10	GPC-11
Block 1 B1.O.01	**Base Component / Base component**											
B1.O.01.01	History of Russia / History of Russia											
B1.O.01.02	History of religions in Russia / History of religions in Russia											
B1.O.01.03	Fundamentals of Russian Statehood / Fundamentals of Russian Statehood											

B1.O.01.04	Mathematical Analysis / Mathematical Analysis	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3								
B1.O.01.05	Algebra and Geometry / Algebra and Geometry	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3								
B1.O.01.06	Physics / Physics	GPC-1.1GPC-1.2GPC-1.3										
B1.O.01.07	Basic military training. Life safety / Basics of military training. Life safety									GPC-9.1GPC-9.2GPC-9.3		
B1.O.01.08	Russian Language and Speech Culture / Russian											
B1.O.01.09	Fundamentals of Engineering Economics and Management / Fundamentals of Engineering Economics and Management											
B1.O.01.10	Theory of Probability and Mathematical Statistics			GPC-3.1GPC-3.2GPC-3.3								
B1.O.01.11	Differential Equations / Differential Equations			GPC-3.1GPC-3.2GPC-3.3	GPC-4.1GPC-4.2GPC-4.3							
B1.O.01.12	Complex Analysis	GPC-1.1GPC-1.2GPC-1.3		GPC-3.1GPC-3.2GPC-3.3								
B1.O.01.13	Psychology and Pedagogy / Psychology and Pedagogy											

B1.O.01.14	Jurisprudence / Legal Science											
B1.O.01.15	Philosophy / Philosophy											
B1.O.01.16	Equations of Mathematical Physics / Equations of Mathematical Physics		GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3								
B1.O.01.17	Physical Culture / Physical Culture											
B1.O.01.DV.01.01	Russian as a Foreign Language / Russian language (as a foreign language)											
B1.O.01.DV.01.02	Foreign Language / Foreign Language											
B1.O.02	**Variable component**											
B1.O.02.01	Introduction to the Specialty							GPC-7.1GPC-7.2			GPC-10.1GPC-10.2	

	/ Introduction to the Specialty							GPC-7.3			GPC-10.3	
B1.O.02.02	Computer Science and Programming / Computer Science and Programming						GPC-6.1GPC-6.2GPC-6.3			GPC-9.1GPC-9.2GPC-9.3		
B1.O.02.03	Fundamentals of Project Activities											
B1.O.02.04	Fundamentals of Artificial Intelligence / Fundamentals of Artificial Intelligence					GPC-5.1GPC-5.2GPC-5.3						
B1.O.02.05	Theoretical Mechanics / Theoretical Mechanics			GPC-3.1GPC-3.2GPC-3.3		GPC-5.1GPC-5.2GPC-5.3						
B1.O.02.06	Space Flight Mechanics / Space Flight Mechanics	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3			GPC-6.1GPC-6.2GPC-6.3					GPC-11.1 GPC-11.2 GPC-11.3
B1.O.02.07	Analysis of Geoinformation Data / Analysis of Geoinformation Data		GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3	GPC-4.1GPC-4.2GPC-4.3	GPC-5.1GPC-5.2GPC-5.3				GPC-9.1GPC-9.2GPC-9.3		
B1.O.02.08	Numerical Methods / Numerical Methods		GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3								
B1.O.02.09	Automatic Control Theory		GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3		GPC-5.1GPC-5.2GPC-5.3	GPC-6.1GPC-6.2GPC-6.3	GPC-7.1GPC-7.2GPC-7.3	GPC-8.1GPC-8.2GPC-8.3		GPC-10.1GPC-10.2GPC-10.3	

B1.O.02.10	Optimal Control Methods / Methods of optimal control			GPC-3.1GPC-3.2GPC-3.3					GPC-8.1GPC-8.2GPC-8.3	GPC-9.1GPC-9.2GPC-9.3		GPC-11.1GPC-11.2GPC-11.3
B1.O.02.DV.01.01	Professional Russian (as a foreign language) / Russian language (as a foreign language) in professional activities											
B1.O.02.DV.01.02	Foreign Language in Professional Activities / Foreign Language in Professional Activities											
	The part formed by the participants of educational relations											
B1.V.DV.01.01	Applied Physical Education / Applied Physical Education											
B1.V.DV.02.01	Discrete Mathematics / Discrete Mathematics											
B1.V.DV.02.02	Discrete Mathematics											
B1.V.DV.03.01	Fundamentals of information security and cyber resilience / Fundamentals of information security and cyber resilience											

B1.V.DV.03.02	Fundamentals of Information Security and Cyber Resilience											
B1.V.DV.04.01	Business Ethics / Business Ethics											
B1.V.DV.04.02	Sociology / Sociology											
B1.V.DV.04.03	Cultural Studies											
B1.V.DV.04.04	Political science / Political science											
B1.V.DV.05.01	Virtual and Augmented Reality Technology / Virtual and Augmented Reality Technologies											
B1.V.DV.05.02	Virtual and augmented reality technologies											
B2.O.01	**Practice. Base Component / Base component**											
B2.O.01.01(U)	Research Work / Research work	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3	GPC-4.1GPC-4.2GPC-4.3	GPC-5.1GPC-5.2GPC-5.3	GPC-6.1GPC-6.2GPC-6.3					

B2.O.02	**Variable Component / Variable Component**											
B2.O.02.01(N)	Research Work	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3									
B2.O.02.02(P)	Technological Training / Technological Practice	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3	GPC-4.1GPC-4.2GPC-4.3	GPC-5.1GPC-5.2GPC-5.3				GPC-9.1GPC-9.2GPC-9.3		
B2.O.02.03(Pd)	Undergraduate Training / Pre-graduation Internship	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3	GPC-4.1GPC-4.2GPC-4.3	GPC-5.1GPC-5.2GPC-5.3	GPC-6.1GPC-6.2GPC-6.3	GPC-7.1GPC-7.2GPC-7.3	GPC-8.1GPC-8.2GPC-8.3	GPC-9.1GPC-9.2GPC-9.3	GPC-10.1GPC-10.2GPC-10.3	GPC-11.1GPC-11.2GPC-11.3
Block 3	**State final certification**											
B3.01(G)	State Exam / State Exam	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3	GPC-4.1GPC-4.2GPC-4.3	GPC-5.1GPC-5.2GPC-5.3	GPC-6.1GPC-6.2GPC-6.3	GPC-7.1GPC-7.2GPC-7.3	GPC-8.1GPC-8.2GPC-8.3	GPC-9.1GPC-9.2GPC-9.3	GPC-10.1GPC-10.2GPC-10.3	GPC-11.1GPC-11.2GPC-11.3
B3.02(D)	Graduate Qualification Work / Design, preparation for the defense procedure and defense of the final qualification work	GPC-1.1GPC-1.2GPC-1.3	GPC-2.1GPC-2.2GPC-2.3	GPC-3.1GPC-3.2GPC-3.3	GPC-4.1GPC-4.2GPC-4.3	GPC-5.1GPC-5.2GPC-5.3	GPC-6.1GPC-6.2GPC-6.3	GPC-7.1GPC-7.2GPC-7.3	GPC-8.1GPC-8.2GPC-8.3	GPC-9.1GPC-9.2GPC-9.3	GPC-10.1GPC-10.2GPC-10.3	GPC-11.1GPC-11.2GPC-11.3
FTD	**Elective disciplines**											

FTD.01	Russian language for foreign students											
FTD.02	Theory and practice of translation											
FTD.03	Practical course of Russian language											
FTD.04	Second Foreign Language (practical course) / Second Foreign Language (practical course)											

Professional competencies						
	Name of disciplines (modules) in accordance with the curriculum	Capable of conducting computational experiments using standard software tools in order to obtain mathematical models of processes and objects of automation and control	Capable of participating in the preparation of analytical reviews and scientific and technical reports on the results of completed work, in the preparation of publications on the results of research and development	Capable of implementing correct data processing, efficient data exchange and basic exploration of large complex data sets	Capable of developing formal access control models for design, implementation and deployment of secure automated systems	Capable of collecting and analyzing initial data for the calculation and design of automation and control systems and equipment
Block 1	**Mandatory part**	PC-1	PC-2	PC-3	PC-4	PC-5
Block 1 B1.O.01	**Base Component / Base component**					
B1.O.01.01	History of Russia / History of Russia					
B1.O.01.02	History of religions in Russia / History of religions in Russia					

B1.O.01.03	Fundamentals of Russian Statehood / Fundamentals of Russian Statehood					
B1.O.01.04	Mathematical Analysis / Mathematical Analysis					
B1.O.01.05	Algebra and Geometry / Algebra and Geometry					
B1.O.01.06	Physics / Physics					
B1.O.01.07	Basic military training. Life safety / Basics of military training. Life safety					
B1.O.01.08	Russian Language and Speech Culture / Russian language and speech culture					
B1.O.01.09	Fundamentals of Engineering Economics and Management / Fundamentals of Engineering Economics and Management					
B1.O.01.10	Theory of Probability and Mathematical Statistics					

B1.O.01.11	Differential Equations / Differential Equations					
B1.O.01.12	Complex Analysis					
B1.O.01.13	Psychology and Pedagogy / Psychology and Pedagogy					
B1.O.01.14	Jurisprudence / Legal Science					
B1.O.01.15	Philosophy / Philosophy					
B1.O.01.16	Equations of Mathematical Physics / Equations of Mathematical Physics					
B1.O.01.17	Physical Culture / Physical Culture					
B1.O.01.DV.01.01	Russian as a Foreign Language / Russian language (as a foreign language)					

B1.O.01.DV.01.02	Foreign Language / Foreign Language					
B1.O.02	**Variable component**					
B1.O.02.01	Introduction to the Specialty / Introduction to the Specialty					
B1.O.02.02	Computer Science and Programming / Computer Science and Programming	PC-1.1 PC-1.2 PC-1.3				
B1.O.02.03	Fundamentals of Project Activities					
B1.O.02.04	Fundamentals of Artificial Intelligence / Fundamentals of Artificial Intelligence					
B1.O.02.05	Theoretical Mechanics / Theoretical Mechanics				PC-4.1 PC-4.2 PC-4.3	
B1.O.02.06	Space Flight Mechanics / Space Flight Mechanics	PC-1.1 PC-1.2 PC-1.3	PC-2.1 PC-2.2 PC-2.3		PC-4.1 PC-4.2 PC-4.3	
B1.O.02.07	Analysis of Geoinformation Data / Analysis of Geoinformation Data	PC-1.1 PC-1.2 PC-1.3		PC-3.1 PC-3.2 PC-3.3		PC-5.1 PC-5.2 PC-5.3

B1.O.02.08	Numerical Methods / Numerical Methods	PC-1.1 PC-1.2 PC-1.3				
B1.O.02.09	Automatic Control Theory	PC-1.1 PC-1.2 PC-1.3				
B1.O.02.10	Optimal Control Methods / Methods of optimal control	PC-1.1 PC-1.2 PC-1.3			PC-4.1 PC-4.2 PC-4.3	
B1.O.02.DV.01.01	Professional Russian (as a foreign language) / Russian language (as a foreign language) in professional activities					
B1.O.02.DV.01.02	Foreign Language in Professional Activities / Foreign Language in Professional Activities					
	The part formed by the participants of educational relations					
B1.V.DV.01.01	Applied Physical Education / Applied Physical Education					

B1.V.DV.02.01	Discrete Mathematics / Discrete Mathematics	PC-1.1 PC-1.2 PC-1.3				
B1.V.DV.02.02	Discrete Mathematics	PC-1.1 PC-1.2 PC-1.3				
B1.V.DV.03.01	Fundamentals of information security and cyber resilience / Fundamentals of information security and cyber resilience					PC-5.1 PC-5.2 PC-5.3
B1.V.DV.03.02	Fundamentals of Information Security and Cyber Resilience					PC-5.1 PC-5.2 PC-5.3
B1.V.DV.04.01	Business Ethics / Business Ethics					
B1.V.DV.04.02	Sociology / Sociology					
B1.V.DV.04.03	Cultural Studies					

B1.V.DV.04.04	Political science / Political science					
B1.V.DV.05.01	Virtual and Augmented Reality Technology / Virtual and Augmented Reality Technologies	PC-1.1 PC-1.2 PC-1.3				PC-5.1 PC-5.2 PC-5.3
B1.V.DV.05.02	Virtual and augmented reality technologies	PC-1.1 PC-1.2 PC-1.3				PC-5.1 PC-5.2 PC-5.3
B2.O.01	**Practice. Base Component / Base component**					
B2.O.01.01(U)	Research Work / Research work	PC-1.1 PC-1.2 PC-1.3		PC-3.1 PC-3.2 PC-3.3	PC-4.1 PC-4.2 PC-4.3	PC-5.1 PC-5.2 PC-5.3
B2.O.02	**Variable Component / Variable Component**					
B2.O.02.01(N)	Research Work		PC-2.1 PC-2.2 PC-2.3			PC-5.1 PC-5.2 PC-5.3

B2.O.02.02(P)	Technological Training / Technological Practice	PC-1.1 PC-1.2 PC-1.3		PC-3.1 PC-3.2 PC-3.3	PC-4.1 PC-4.2 PC-4.3	PC-5.1 PC-5.2 PC-5.3
B2.O.02.03(Pd)	Undergraduate Training / Pre-graduation Internship	PC-1.1 PC-1.2 PC-1.3	PC-2.1 PC-2.2 PC-2.3	PC-3.1 PC-3.2 PC-3.3	PC-4.1 PC-4.2 PC-4.3	PC-5.1 PC-5.2 PC-5.3
Block 3	**State final certification**					
B3.01(G)	State Exam / State Exam	PC-1.1 PC-1.2 PC-1.3	PC-2.1 PC-2.2 PC-2.3	PC-3.1 PC-3.2 PC-3.3	PC-4.1 PC-4.2 PC-4.3	PC-5.1 PC-5.2 PC-5.3
B3.02(D)	Graduate Qualification Work / Design, preparation for the defense procedure and defense of the final qualification work	PC-1.1 PC-1.2 PC-1.3	PC-2.1 PC-2.2 PC-2.3	PC-3.1 PC-3.2 PC-3.3	PC-4.1 PC-4.2 PC-4.3	PC-5.1 PC-5.2 PC-5.3
FTD	**Elective disciplines**					
FTD.01	Russian language for foreign students					

FTD.02	Theory and practice of translation					
FTD.03	Practical course of Russian language					
FTD.04	Second Foreign Language (practical course) / Second Foreign Language (practical course)					