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 Academic
Counsil of RUDN University
Protocol № 2022-08/3
06.03.2025
(date, month, year)

PROFESSIONAL EDUCATION PROGRAMME OF HIGHER EDUCATION

Field of Studies / Specialty:

2.3.1 System Analysis, Control and Information Processing, Statistics
(scientific speciality code and title)

Profile / Specialisation

System Analysis, Control and Information Processing, , Statistics
(PhD program title)

The Educational Programme is developed in compliance with:

Educational Standard of RUDN University, approved by order of the Rector of RUDN University No. 139 dated March 9, 2022.

Length of Educational PhD Programme:

3 years
(full-time education)

Educational PhD Programme Features: programme is implemented in English

AGREED by:

Head of Educational Programme
Razoumny Yu.N.
(signature)

Head of Faculty
Razoumny Yu.N.
(signature)

Head of Educational Policy Department
Vorobyeva A. A.
(signature)

Head of PhD Study Department
Borisova A. S.
(signature)

2025

1. EDUCATIONALPROGRAMME GOAL

The purpose of the program is to create conditions for acquiring the level of knowledge, skills, experience and preparation for the defense of a dissertation for the degree of Candidate of Technical Sciences necessary for professional activity in the field of system analysis, control and data processing, as well as conducting scientific research in the interests of the development of science, humanity and humanitarian values.

2. BRIEF SUMMARY OF THE PROGRAMME

Research activities within the framework of the training program cover the fields of computer science, computer, information, robotic and intelligent systems, methods of accumulation and processing of information, algorithms, human-machine interfaces, the development of new mathematical methods and tools to support intelligent data processing, the development of information and automated design and control systems in application to various subject areas.

The program is implemented in full-time education in accordance with the license for the right to carry out educational activities.

The standard term for mastering the training program for scientific and scientific-pedagogical personnel in postgraduate 2.3.1 "System analysis, management and information processing" in full–time education is 3 years.

The volume of the postgraduate program is 180 credits (hereinafter referred to as credits). The volume of the postgraduate program implemented in one academic year is 60 credits.

3.LABOR MARKET NEEDS FOR PERSONAL TRAINING IN EDUCATIONAL PROGRAMME PROFILE

In the course of training, graduate students receive theoretical and practical training, research and scientific and pedagogical skills that allow them to work effectively after graduation at enterprises of various fields and industries in leadership positions, as well as in research and educational organizations.

Graduates who have mastered this program are focused on working in Russian and international companies, enterprises, educational institutions, research organizations in various fields of industry related to the research and design of information systems, automation of complex process control.

The field of professional activity of graduates who have mastered the postgraduate program includes the fields of science, technology, technology and pedagogy, covering a set of tasks in the field of information technology and telecommunications, including the development of theory, creation, implementation and operation of promising computer systems, networks and complexes, mathematical and software.

In the professional sphere, the main consumers of the training program for scientific and scientific-pedagogical personnel are such Russian and international enterprises as:

 Federal State Institution "Federal Research Center Institute of Applied Mathematics named after M.V. Keldysh of the Russian Academy of Sciences"

 Federal State Budgetary Institution of Science V. A. Trapeznikov Institute of Management Problems of the Russian Academy of Sciences (IPU RAS);

 Federal State Unitary Enterprise "Central Research Institute of Mechanical Engineering" (FSUE TsNIIMash, Korolev)

 Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia";

 Yandex LLC;

 Kaspersky Lab;

 NGO Echelon

4.REQUIREMENTS FOR APPLICANTS APPLYING TO THE PHD PROGRAMME

Admission to the program is subject to Admission Rules approved by the relevant local regulatory act and publicly available on the official website of the RUDN.

5.STRUCTURE AND WORKLOAD OF THE EDUCATIONAL PROGRAMME FOR PhD STUDIES

The structure and scope of the postgraduate program – the period of mastering 3 years in full-time.

№	Structure of the Postgraduate Program	The scope of the PhD program in CU
1. Scientific component		150
1.1.	Scientific Research	126
1.2.	Preparation of publications and (or) applications for patents for inventions, utility models, industrial designs, certificates of state registration of computer programs, databases, topologies of integrated circuits /	18
1.3.	Intermediate certification	6
2. Postgraduate part		24
2.1.	Disciplines (modules)	13
2.2.	Pedagogical Practice	5
2.3.	Intermediate certification in disciplines (modules) and practice	6
3. Final examination		6
3.1	Evaluation of the thesis for its compliance with the established criteria	6
Scope of the Postgraduate Program		180

6.CHARACTERISTICS OF EDUCATIONAL PROGRAMME GRADUATE'S PROFESSIONAL ACTIVITIES

6.1 Area of professional activity

The field of professional activity of graduates who have mastered the postgraduate program includes the fields of science, technology, technology and pedagogy, covering a set of tasks in the field of information technology and telecommunications, including the development of theory, creation, implementation and operation of promising computer systems, networks and complexes, mathematical and software.

6.2 Objects of professional activity

The objects of professional activity of graduates who have mastered the postgraduate program are the chosen field of scientific knowledge, as well as scientific tasks of an interdisciplinary nature, containing:

– computers, complexes, systems and networks;

– software of computer equipment and automated systems (programs, software complexes and systems);

– mathematical, informational, technical, software of automated information, computing, designing and control systems;

– technologies for the development of computer hardware and software products.

The chosen field of scientific knowledge is system analysis, management and information processing.

6.3 Types of professional activity

The postgraduate program is aimed at mastering all types of professional activities for which the graduate is preparing.

During the development and implementation of the postgraduate program, the scientific supervisor of the program focuses on the specific type (types) of professional activity for which the graduate student is preparing, based on the needs of the labor market, research and material resources of the structural units involved in the implementation of the training program for scientific and scientific-pedagogical personnel.

Within the framework of this field of training, a postgraduate student is preparing for research activities in universities, research and production enterprises of any form of ownership, as well as for teaching at a university.

Types of professional activities for which graduates who have mastered the postgraduate program are preparing:

– research activities in the field of information technology and telecommunications, the creation of elements and devices of computer technology based on new physical and technical principles, methods of processing and accumulation of information, algorithms, programs, programming languages and human-machine interfaces, the development of new mathematical methods and tools to support intelligent data processing, the development of information and automated systems design and management in application to various subject areas;

– teaching activities in educational programs of higher education.

6.4 Tasks of professional activity

A graduate who has mastered the postgraduate program, in accordance with the types of professional activities that the educational program is focused on, is ready to solve the following professional tasks:

– independent (including managerial) research activities that require extensive fundamental training in modern areas of management of technical systems, design of intelligent and information management systems, deep specialized training in the chosen direction, proficiency in modern research methods;

– scientific and pedagogical work in higher and secondary specialized educational institutions.

7. LOCATION OF IMPLEMENTATION OF THE PHD PROGRAMME

7.1. The postgraduate program is implemented by the Federal State Educational Institution "Peoples' Friendship University of Russia".

7.2. Information about the planned bases for conducting practices and (or) performing scientific research

Internship*	**Internship location** *(organisation name and location)*
Orientation Practice (introductory, intramural)	Federal State Unitary Enterprise "Central Research Institute of Mechanical Engineering" (FGUA TsNIIMash, Korolev)
Technological (advanced field internship, industrial, extramural)	Federal State Institution "Federal Research Center Institute of Applied Mathematics named after M.V. Keldysh of the Russian Academy of Sciences"

8.FEAUTURES OF EDUCATIONAL PROGRAMME IMPLEMENTATION

8.1. The postgraduate program is implemented with elements of distance learning technologies, implying the possibility of conducting lectures using MS Teams.

8.2. The language of the postgraduate program is English.

8.3. The program does not provide for the training of persons with disabilities and persons with disabilities.