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. 2022-08/22-04/2 _____29.04.2022_____ (date, month, year)	Opened by order of the Rector of RUDN University No. _____ _____ (date, month, year)

PROFESSIONAL EDUCATION PROGRAMME OF HIGHER EDUCATION

Field of Studies/ Speciality: **2.3.5. Mathematical Support and Software for Computer Systems, Complexes and Computer Networks / Математическое и программное обеспечение вычислительных систем, комплексов и компьютерных сетей**

field of studies / speciality code and title

Profile/Specialisation:

Mathematical Support and Software for Computer Systems, Complexes and Computer Networks / Математическое и программное обеспечение вычислительных систем, комплексов и компьютерных сетей (реализуется на английском языке)

higher education programme title

The Educational Programme is developed in compliance with:

Educational Standard of RUDN University, approved by Order of the Rector No.139 _ dated 09.03.2022
                    (day, month, year)

Federal State Educational Standard of Higher Education, approved by Order of the Ministry of Education and Science of Russian Federation No.195
dated 20.10.2021_
            (day, month, year)

Level of education:

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

Graduate's Qualification:

_____
(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:

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

AGREED by:

Head of Educational Programme	Chairperson of Didactic Council	Head of Educational Department
Kupreev S.A.	**Vorob'eva A.A.**	**Razoumny Yu.N.**
(signature)	(signature)	(signature)
(day, month, year)	(day, month, year)	(day, month, year)

1. EDUCATIONAL PROGRAMME GOAL (MISSION)

The purpose of the program is to create conditions for acquiring the level of knowledge, skills, skills, and experience necessary for the implementation of professional activities and preparing for the defense of a dissertation for the degree of candidate of science, as well as conducting scientific research in the interests of the development of science, humanity and humanitarian values.

2. EDUCATIONAL PROGRAMME RELEVANCE, SPECIFICITY, AND UNIQUENESS

Research activities within the framework of the training program cover the areas of creation and application of elements of computer technology, informatics, computer, information, robotic and intelligent systems, methods of accumulation and processing of information, algorithms, human-machine interfaces, development of new mathematical methods and means of supporting intellectual processing data, development of information and automated systems for design and control 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 field of professional activity of graduates who have mastered the postgraduate program includes the fields of science, engineering, technology and pedagogy, covering the totality of tasks of the field of Informatics and Computer Engineering, including the development of theory, the creation, implementation and operation of advanced computer systems, networks and complexes, mathematical and software.

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

– computers, complexes, systems and networks;

- software for computer equipment and automated systems (programs, software packages and systems);

- mathematical, information, technical, software for automated information, computing, design and control systems;

- technologies for the development of technical means of computer technology and software products.

The chosen area of scientific knowledge is Mathematical modeling, numerical methods and software systems.

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

When developing and implementing postgraduate programs, the supervisor of the educational program focuses on the specific type (types) of professional activity for which (which) the postgraduate student is preparing, based on the needs of the labor market,

research and material and technical resources of the structural units involved in the implementation of the educational program .

Within the framework of this area of training, a graduate 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 functioning of computers, complexes, computer networks, creation of elements and devices of computer technology on new physical and technical principles, methods of processing and accumulation of information, algorithms, programs, programming languages and human-machine interfaces, development of new mathematical methods and means of supporting intellectual data processing, development of information and automated design and control systems in application to various subject areas;

– teaching activity on educational programs of higher education.

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:

The tasks of the professional activity of a postgraduate graduate are:

– independent (including managerial) research activity, which requires broad fundamental training in modern areas of technical systems management, design of intelligent and information-control systems, deep specialized training in the chosen direction, skills in modern research methods;

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

3. LABOUR MARKET NEEDS FOR PERSONNEL TRAINING IN EDUCATIONAL PROGRAMME PROFILE

In the professional sphere, the main consumers of the educational program 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 Institute of Management Problems named after. V. A. Trapeznikov of the Russian Academy of Sciences (IPU RAS);

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

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

Yandex LLC;

Kaspersky Lab;

NPO Echelon

5. SPECIAL REQUIREMENTS FOR POTENTIAL APPLICANTS

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

6. FEATURES OF EDUCATIONAL PROGRAMME IMPLEMENTATION

6.1. The Educational Programme is implemented *with elements the use of* e-learning technologies (Teams, TUIS).

6.2. The language of the Educational Programme implementation is *English.*

6.3. The Educational Programme is *does not provide for education* of people with disabilities.

6.4. The Educational Programme is implemented by the Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia.

The information about partner organisations involved in the implementation of the Educational Programme *(educational and scientific organisations, manufacturing enterprises, etc.)* should be provided.

Name of partner organisation	Interaction functionality (*students' research at a partner organsation, internships, etc.*)
Federal State Unitary Enterprise "Central Research Institute of Mechanical Engineering" (FGUA TsNIIMash, Korolev)	Internships Students's research
Federal State Institution "Federal Research Center Institute of Applied Mathematics named after M.V. Keldysh of the Russian Academy of Sciences"	Internships Students's research

6.5. The information on the planned introductory/advanced field internships and (or) research & development internships

Internship*	Internship location (*organisation name and location*)
Orientation internship (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"

The structure and scope of the postgraduate program - the period of development is 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 by stages of scientific research	6
2. Educational component		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