Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
RUDN University
ENGINEERING ACADEMY

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

Approved at the meeting of the Academic Council of RUDN University
Protocol No. _____
_____
(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:

1.1.7. Theoretical mechanics, machine dynamics

field of studies / speciality code and title

Profile/Specialisation:

Theoretical mechanics, machine dynamics

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. _____
dated _____
(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:

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

AGREED by:

Head of Educational Programme	Chairperson of Didactic Council	Head of Educational Department
Belyaev V.V.		**S.V. Popov**
(signature)	(signature)	(signature)
(day, month, year)	(day, month, year)	(day, month, year)

1. EDUCATIONAL PROGRAMME GOAL (MISSION)

The purpose of postgraduate studies is to guide the postgraduate student to the development of an academic career, maximum adaptation in the scientific environment. The goal is to solve the problems of building a nationally oriented economy and the formation of the necessary quality of "human capital".

The goal is to prepare and defend a dissertation for the degree of candidate of sciences.

2. EDUCATIONAL PROGRAMME RELEVANCE, SPECIFICITY, AND UNIQUENESS

The program is focused on the training of highly qualified specialists in the direction of training 1.1.7. "Theoretical Mechanics, Dynamics of Machines". The curriculum is designed in such a way that it allows students to form professional competencies that are currently in demand. The purpose of the program is to create conditions for acquiring the necessary level of knowledge, skills, experience and experience for the implementation of professional activities and preparing for the defense of a scientific qualification work (dissertation) for the degree of candidate of sciences, as well as conducting scientific research in the interests of the development of science, mankind and humanitarian values. Research activities within the framework of the educational program cover the field of science and technology, which studies the behavior of technical objects for various purposes, the laws of mechanical phenomena and related processes of a different nature (pneumohydraulic, thermal, electrical, etc.) using the methods of mechanics and computational mathematics. place in machines, devices, structures and their elements, as well as in materials, both natural and artificially obtained.

The educational program has an intersectoral character, since the problems of strength, stability, durability, rational optimization, resource, survivability, reliability and safety of machine and structure structures are important in most high-tech industries: traditional and nuclear energy, aircraft engineering, rocket science, mechanical engineering, instrumentation, traditional and pipeline transport, industrial, civil and special construction.

In the process of studying, postgraduate students receive theoretical and practical training and skills in research and scientific and pedagogical work, which allow them to work effectively after completing the study of the educational program in enterprises of various fields and industries in senior positions, as well as in research and educational organizations.

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

Graduates who have mastered this program are focused on work in Russian and international companies, enterprises, educational institutions, research organizations in various fields of industry related to the research and design of automatic control systems. State and commercial structures of science-intensive industries are interested in graduates, in particular, enterprises of the aerospace, oil and gas, machine-building and other leading

industries, as well as for the development of an element base used in the digitalization of various sectors of the economy.

Graduates prepared by the program can engage in research activities in the field of the functioning of computers, complexes, computer networks, the creation of elements and devices of computer technology on new physical and technical principles, methods of processing and accumulating information, algorithms, programs, programming languages and human-machine interfaces , the development of new mathematical methods and means of support for intelligent data processing, the development of information and automated design and management systems in application to various subject areas, as well as teaching activities for educational programs of higher education

In the professional sphere, the main consumers of the educational program are such enterprises in Moscow and Russia as:

- Federal State Budgetary Institution of Science Institute of Management Problems. V. A. Trapeznikov of the Russian Academy of Sciences (IPU RAS);
- Computing Center. A.A. Dorodnitsyn of the Russian Academy of Sciences of the Federal Research Center "Informatics and Management" of the Russian Academy of Sciences (CC RAS);
- Federal State Unitary Enterprise "Central Scientific Research Institute of Mechanical Engineering" (FSUE TsNIIMash, Korolev);
- JSC Russian Space Systems;
- Rocket and Space Corporation named after S.P. Korolev (RSC Energia, Korolev);
- FSUE "State Research Institute of Aviation Systems" (GosNIIAS);
- Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia";
- Federal State Budgetary Educational Institution of Higher Education “Bauman Moscow State Technical University (National Research University)”(BMSTU);
- Moscow Aviation Institute (National Research University) (MAI), etc.

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 the RUDN University.

5. FEATURES OF EDUCATIONAL PROGRAMME IMPLEMENTATION

5.1. The program is implemented without the use of a network form, without the use of distance learning technologies, with the use of e-learning elements using the TUIS RUDN University system.

5.2. The language of the PhD program is Russian.

5.3. The program does not provide for the training of people with disabilities and people with disabilities.

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

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

Internship*	**Internship location** *(organisation name and location)*
Pedagogical practice (stationary)	RUDN University, Moscow

6. CHARACTERISTICS OF EDUCATIONAL PROGRAMME GRADUATE'S PROFESSIONAL ACTIVITIES

6.1. The field(s) of professional activities of the Educational Programme graduate, where he/she can carry out his/her professional activities: in the scientific and production sphere - science-intensive high-tech industries of the defense industry, aerospace complex, aircraft industry, mechanical engineering, design and creation of new materials, construction, research and analytical centers of various profiles, in the socio-economic sphere - funds, insurance and management companies, financial organizations and business structures, as well as educational organizations of higher education.

6.2. The type(s) of professional activities tasks, which the graduate is trained to solve when mastering the Educational Programme:

- research activities in the field of fundamental and applied mathematics, mechanics, natural sciences;
- teaching activity in the field of mathematics, mechanics, informatics.