Real, Complex and Functional Analysis

Far Eastern Federal University

Degree or qualification is awarded: **Candidate of Sciences**

Language of study: **Russian**
Mode of study: **full-time**
Duration: **4 years**
Availability of free education: **yes**
Price: **305 000 rub per year**

Programme webpage at the university website:
https://www.dvfu.ru/upload/medialibrary/a06/%D0%9F%D0%B5%D1%80%D0%B5%D1%87%D0%B5%D0%BD%D1%8C%20%D0%BF%D1%80%D0%BE%D0%B3%D1%80%D0%B0%D0%BC%D0%BC%20%D0%B0%D1%81%D0%BF%D0%B8%D1%80%D0%B0%D0%BD%D1%82%D1%83%D1%80%D1%8B,%20%D0%BE%D0%B1%D1%8A%D1%8F%D0%B2%D0%BB%D0%B5%D0%BD%D0%BD%D1%8B%D1%85%20%D0%B2%20%D0%BD%D0%B0%D0%B1%D0%BE%D1%80%202020%20%D0%B3%D0%BE%D0%B4%D0%B0.pdf

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The purpose of the educational program is to acquire the level of competencies necessary for the implementation of professional activities and preparation for the defense of a scientific and qualifying work (dissertation) for the degree of candidate of sciences.

A graduate who has mastered the postgraduate program 01.06.01 Mathematics and Mechanics, prepared for the independent formulation and solution of complex theoretical and applied problems in the field of fundamental and applied mathematics, mechanics and other natural sciences.

The main tasks of training a postgraduate student in the profile "Real, complex and functional analysis" are: in-depth study of the theoretical and methodological foundations of fundamental mathematics in the field of function theory;

improving philosophical training, focused on understanding the philosophical foundations of mathematics;

improving knowledge of a foreign language for working with foreign mathematical literature, publishing articles and presenting reports in English;

the formation of skills in independent research activities;

the formation of systematized knowledge, skills and abilities in the field of methods of teaching mathematics.

In the scientific and industrial sphere - science-intensive high-tech industries of the defense industry, aircraft construction, aerospace, mechanical engineering, design and creation of new materials, construction, research and analytical centers of various profiles.

In the socio-economic sphere - foundations, insurance and management companies, financial organizations and business structures, as well as educational institutions of higher education.

The specificity of this area of training is an in-depth understanding of the graduates of the theoretical foundations of mathematics in the field of material, complex and functional analysis, which contributes to the development of analytical skills and further employment in the above areas.

The objects of professional activity of graduates who have mastered the postgraduate program are concepts, hypotheses, theorems, physical and mathematical models, numerical algorithms and programs, methods of experimental study of the properties of materials and natural phenomena, physical and chemical processes that make up the content of fundamental and applied mathematics, mechanics and others. natural sciences.

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

research activities in the field of fundamental and applied mathematics, mechanics, natural sciences;

teaching activities in the field of mathematics, mechanics, computer science.

A graduate who has mastered the postgraduate program is ready for research activities in the specialty "Real, complex and functional analysis". The specialty includes works containing research in the following areas:

real analysis, which studies the local and global properties of functions of real variables, their representations and approximations;

complex analysis, which studies the analytical functions of one and many complex variables and their properties;

functional analysis, in which mappings of infinite-dimensional spaces (functionals, operators) are studied.

The disciplines of the variable part "Real, complex and functional analysis", "Capacities of capacitors and symmetrization in the geometric theory of functions", "Potential theory", "Special functions" are based on advanced scientific achievements in the field of real, complex and functional analysis, therefore, are necessary and sufficient for the formation of general professional and professional competencies of a graduate, taking into account modern requirements for scientific and qualification works.

Specializations within this programme