Physical Chemistry

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: **320 000 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 qualification work (dissertation) for the degree of candidate of sciences:

- formation of skills of independent research and teaching activities

- in-depth study of the theoretical and methodological foundations of chemical sciences.

The area of professional activity of graduates who have mastered the postgraduate program includes the fields of science

science-intensive technologies and chemical education, covering a set of tasks in theoretical and applied chemistry (in accordance with the focus of training), as well as related natural science disciplines.

The objects of professional activity of graduates who have mastered the postgraduate program are new substances, chemical processes and general patterns of their course, scientific tasks of an interdisciplinary nature.

The types of professional activities for which the graduates who have mastered the postgraduate program are preparing: research activities in the field of chemistry and related sciences; teaching activities in the field of chemistry and related sciences.

Ability to independently conduct research work and obtain scientific results, those who meet the established requirements for the content of dissertations for the degree of candidate of sciences in the specialty of physical chemistry; Ability to professionally operate modern research equipment and instruments; Ability to professionally present the results of their research and present them in the form of scientific publications and presentations; Ability to carry out teaching activities for the implementation of professional educational programs in the field of physical chemistry;

Ability to design and carry out complex research, including interdisciplinary, based on a holistic systemic scientific worldview using knowledge in the field of history and philosophy of science; Willingness to

participate in the work of Russian and international research teams to solve scientific and scientific and educational problems; Willingness to use modern methods and technologies of scientific communication in the state and foreign languages; Ability to plan and solve problems of one's own professional and personal development.

The postgraduate program is aimed at mastering all types of professional activities for which the graduate is preparing.Physical chemistry is, in fact, the theoretical basis of all chemical disciplines, since it is a section of chemical sciences about the general laws that determine the structure of matter, the direction and rate of chemical transformations, quantitative relationships between chemical composition, structure of a substance (material) and its functional properties.

This predetermines the demand for graduates who have mastered this specialty of postgraduate studies in research of substances, materials, processes, technologies, both in scientific activity and in industry, and in chemical education.

In the same areas, there is a need for personnel of the highest those who meet the established requirements for the content of dissertations for the degree of candidate of sciences in the specialty of physical chemistry;

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In the same areas, there is a need for highly qualified personnel.

The choice of disciplines of the curriculum for the profile 02.00.04.- physical chemistry in the variable part is quite sufficient, covers almost all sections of physical chemistry, and meets modern requirements for the preparation of scientific and qualification work.

This is facilitated by both general courses - "Actual problems of physical chemistry", "Methods of teaching chemistry at the university", and more special courses - "Theory and practice of adsorption processes", "Theoretical electrochemistry", "Macrokinetics of chemical reactions", "Kinetics and catalysis ", as well as Chemistry of Surface and Nanoparticles "and" Modern Problems of Colloidal Chemistry ".

Places of work and job prospects of graduates

Academic institutes FEB RAS.

Universities of the Far Eastern Federal District.

Specific organizations - Institute of Chemistry, Far Eastern Branch of the Russian Academy of Sciences, FEFU, universities of Khabarovsk, Blagoveshchensk.

Scientific advisers - doctor of chemical sciences, professor Vasilyeva M.S.

Doctor of Chemical Sciences, Professor, Honored Worker of the Higher School of the Russian Federation, Kondrikov N.B., Head of the EP.

Specializations within this programme