

Analytical 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%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.

The objectives of the educational program "Analytical Chemistry" are:

1. In-depth study of the theoretical and methodological foundations of analytical chemistry;
2. Development of a holistic understanding of the technology and methods of chemical analysis among graduate students;
3. Development of the ability to generalize modern methods used in the analysis of various objects;
4. Mastering the strategy of analysis, including both classical and promising approaches, which appeared due to the development of fundamentally new analytical methods;
5. Using the possibilities of modern methods of sample preparation in the analysis of trace amounts.

The area of professional activity of graduates who have mastered the postgraduate program includes the spheres 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 sciences.

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.

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

The study of the program in the "Analytical Chemistry" profile is aimed at the formation of an appropriate level of research activities of graduate students, independent scientific research. The study involves the generalization and analysis of modern methods of analysis. The possibilities of using the methods for obtaining information on the composition of complex mixtures of natural compounds of various classes are being studied.

In lectures, graduate students are given in-depth knowledge of theoretical and practical problems of analytical chemistry methods. During practical sessions, graduate students consolidate their acquaintance with the discussed methods and use them in specific analytical work.

The studied program forms the main professional competencies of graduate students in the field of modern methods of analysis.

Analytical chemistry specialists are among the most in demand on the modern labor market.

The variable part includes the following items:

- Metrology in analytical chemistry,
- Physical methods of analysis,
- Chromatographic analysis methods,
- Organizational and managerial basis,
- Modern educational technologies in higher education,
- Selected chapters of analytical chemistry,
- Methods of teaching chemistry at the university,

Biological methods of analysis.

The disciplines of the variable part of the program "Analytical Chemistry" 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 and employers' requests. Analytical laboratories of the institutes of the Academy of Sciences, practically all production and technological laboratories of enterprises of various forms of ownership, analytical centers and certification and metrology bodies act as employers of graduates of the Analytical Chemistry program in the region and on the territory of Russia. Graduates who have mastered the Analytical Chemistry program are the most in demand in the region.

Specializations within this programme