Organic, Organoelemental, and Medical Chemistry

Kazan (Volga Region) Federal University

Degree or qualification is awarded: **Master**

Language of study: **Russian**
Mode of study: **full-time**
Duration: **2 years**
Availability of free education: **no**
Price: **180 840 RUB per year**

Programme webpage at the university website:
https://kpfu.ru/eng/academic-units/natural-sciences/alexander-butlerov-institute-of-chemistry

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The purpose of the educational program

Comprehensive and high-quality fundamental and professional training of qualified specialists in the field of organic, organoelemental and medical chemistry, competitive in the labor market, successfully solving professional problems in production and research areas.

Why is it worth choosing this program?

Organic, Organoelemental, and Medical Chemistry is a multidisciplinary field, at the junction of modern trends in the development of chemistry, primarily such as methods of organic synthesis, drug technology, nanochemistry, nanotechnology, computer design of drugs. Kazan Federal University is a developer of many innovative drugs, which enables graduates to master not only the necessary theoretical and practical competencies, but also to apply these skills in scientific research groups of the university.

Description of the educational process

During the two-year educational cycle, master's degree student study a wide range of general and special disciplines. The basic courses include: medicinal chemistry, organic synthesis methods in medicinal chemistry, drug technology, biological screening methods, computer-aided drug design, pharmaceutical drug development, biochemistry, molecular and cellular biology, fundamentals of molecular interactions, inorganic medicinal chemistry. Optional disciplines include: introduction to pharmacology, pharmacodynamics and pharmacokinetics, physicochemical methods for the study of organic compounds, physiology of animals and humans for drug developers, principles of good laboratory practice, metabolism and toxicity of organic substances, patent science, bioinformatics and others.

Skills that students will acquire after completing an educational program

Graduates are ready to carry out research works in the field of synthesis, isolation, analysis and study of the properties of organic, organoelement and medical compounds in laboratories of academic and departmental institutes, in pharmaceutical industries related to the synthesis, isolation, analysis of drugs; for pedagogical activities in departments chemistry of higher educational institutions of a chemical and non-chemical profile, to the leadership of small scientific and pedagogical teams.

Professional Areas Where Graduates Have Advantages

The specialty is multidisciplinary, which provides graduates a wide range of future professions, for example:

· Biochemist

- Drug designer
- Chemical Engineer
- Medical chemist (cytochemist, histochemist, neurochemist, immunochemist)
- Pharmacist-analyst
- Pharmacist-specialist in clinical trials (researcher)
- Pharmacist-technologist
- Pharmacologist
- Pharmaceutical chemist
- Analytical chemist
- Chemist-expert of a medical organization

The main employers of graduates who have mastered this specialty are scientific institutes, research laboratories, educational organizations of both secondary and higher education, organizations engaged in the development of methods for the synthesis and analysis of various substances, including medicines, organizations involved in monitoring the quality of water, air , soil.

Specializations within this programme