

Chemistry of supramolecular nano- and biosystems

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 rubles 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 chemistry of supramolecular nano- and biosystems, competitive in the labor market, successfully solving professional problems in production and research areas.

Why is it worth choosing this program?

The chemistry of supramolecular nano- and biosystems is a multidisciplinary field. Thus, specialists in this area study such areas of knowledge as organic chemistry, nanochemistry, nanotechnology, nanoindustry, supramolecular chemistry, biochemistry. The study of the synthesis, stability and dynamics of artificial multicomponent supramolecular assemblies is an important element for understanding the processes of self-organization and molecular recognition in nature. This approach makes it possible to obtain new classes of materials and devices for future technologies, which makes graduates of this specialty in-demand scientific personnel in the development of new drugs, multifunctional materials, sensors, and new generation electronics components.

Brief description of the educational process

The main distinguishing features of this master's program are:

- a significant part of independent work in the curriculum;
- the use of the latest technologies and teaching methods;
- a modular timetable;
- the opportunity to offer the courses of interest from a wide range of disciplines of your choice;
- participation of leading teachers of KFU and leading researchers of the Russian Academy of Sciences;;
- guest lectures of professors from partner universities;
- research projects;
- the opportunity to undergo the included training in one of the partner universities;
- the opportunity to pass qualifying exams for postgraduate study and continue research work.

Training in the Master's program includes the educational and research parts. This allows not only significantly improving the qualification of graduates but also offering them the opportunity to try their best in the field of science under the supervision of the leading scientists of University.

Skills that students will acquire after completing an educational program

Graduates of the master's program have extensive experience in research work, applications of its results in solving specific problems of supramolecular chemistry, organic chemistry, nanotechnology, nanobiotechnology, biochemistry. Graduates possess the theoretical and practical skills of working in a given field, the skills of choosing and applying

methods for studying nanosystems, the skills of analyzing the composition and properties of the materials obtained. The experience of writing a master's thesis (thesis project) helps later in teaching in postgraduate and doctoral studies.

Professional Areas Where Graduates Have Advantages

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

- Drug designer
- Nanobiotechnologist (bionanotechnologist)
- Nanotechnologist
- Nanochemist
- Research chemist,
- Pharmaceutical chemist

Also, graduates will be able to find work:

- in companies specializing in the purchase and sale of nanomaterials, technology and equipment;
- in organizations related to the coordination of scientific activity and the development of high technologies

Specializations within this programme