

# Analytical chemistry

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Degree or qualification is awarded: **Bachelor's degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **89 872 rubles per year**

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## **OBJECTIVES:**

Analytical chemistry studies the development of theoretical basis of analysis of substances chemical composition , investigates the methods of identification and detection, determination and separation of chemical elements and its compounds, as well as the methods of defining of chemical structure of substances.

The subject of analytical chemistry is design of analytical methods and practical analysis of various material objects (gaseous and liquid media, solid organic and inorganic substances) utilizing advanced instruments and techniques (spectral, chromatographic, electrochemical, etc.).

A large part of the academic time is devoted to the work in the various scientific laboratories and research.

## **THE MAIN SCIENTIFIC DIRECTIONS:**

- Chemical-analytical laboratories:
- Ministry of Health
- agriculture systems
- scientific institutions
- nature protection
- food companies
- Mining, oil, gas, coal, diamond and wood-processing industries
- INDUSTRY for production and processing of structural nanomaterials
- Chemical-technological and biotechnological INDUSTRY

## **Professional Activities:**

- Synthesis of solid inorganic highly porous sorbents for purification of various mediums from heavy metals and radionuclides.
- Study of the structure and properties of natural dyes, applicable in the pharmaceutical industry.

- Hydrogen safety of the NPPs. Hydrogen energy. Hydrogen and radiation safety of nuclear power plants.
- Research and development of the technology of nano-structured polymer membranes for ultrafiltration.
- Development of the chemical analysis of pharmaceutical preparations methods .

#### **INTERSHIP AND EMPLOYMENT:**

- Research institutes of the Obninsk city
- Research and production company «Express Eco»
- Research and production company «Bion»
- RPC «Medbiopharm»
- RPC «Hemofarm»
- Enterprises of the chemical and pharmaceutical cluster in Kaluga and Moscow region
- Enterprises of the SC «Rosatom»

#### **Specializations within this programme**