Radiation medical physics

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

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

Language of study: **Russian**
Mode of study: **full-time**
Duration: **4 years**
Availability of free education: **yes**
Price: **316 290 rubles per semester**

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The goal of the program: "Radiation Medical Physics" is training the staff for research institutes and production facilities, the scope of professional activities which include radiation medicine.

The area of professional activity: research, development and technology, aimed at the registration and processing of information, the development of the theory, the creation and use of plants and systems in the field of radiation health physics, studying the interaction of light with objects animate and inanimate nature, the development of software and hardware and carrying out dosimetry and planning of radiation therapy, nuclear, radiation and industrial safety and security of nuclear materials, physical protection and security of nuclear and technically complex facilities.

Features of the curriculum: The main features of the educational process of preparation of bachelors on the program of radiation biophysics are a number of humanities disciplines (foreign languages, history, philosophy, cultural studies), as well as the discipline of mathematics mathematical analysis, linear algebra, differential and integral equations) and professional (physics, theoretical physics, biophysics, physical chemistry, human's biology and anatomy, normal physiology, medical biochemistry, bioenergetics of cell, and others.) cycles. This provides a deep physical and mathematical, information technology and biomedical training and provides a reliable job placement. A large part of studying time allotted to research practice, which helps develop skills on working with modern equipment and skills of practical use of the methods of physics and mathematical modeling to solve practical problems in the field of radiation biophysics.

The curriculum of the program includes humanities module (foreign language, history, philosophy, cultural studies), natural science module (mathematical analysis, linear algebra, differential and integral equations, general physics, chemistry) and professional module.

The list of enterprises for practice and employment of graduates: training laboratories of the department number 35, FSBGU "RCRC of N.N. Blokhin, FMBC of A.I. Burnazyan FMBA of Russia, SIC "Kurchatov Institute", Institute of Oncology of Herzen, FGBI "FNKTS DGOI of Dmitry Rogachev" (Moscow) and other organizations subject to agreement.

Specializations within this programme

Nuclear physics and technologies

The objects of professional activity

The atomic nucleus, elementary particles and the plasma, gaseous and condensed state of matter, lasers and their application, nuclear reactors, advanced electronic circuit design, electronic systems in nuclear and physical installations, automated control system for nuclear physics facilities, development of nuclear and physical facilities , application technology devices and installations for recording radiation, separation of molecular mixtures, as well as the analysis of substances, radiation effects of ionizing radiation on humans and the environment, radiation technology in medicine, nanomaterials and nanotechnologies, mathematical models of theoretical, experimental and applied research of phenomena and laws in the field of nuclear physics, particle distribution and the interaction of radiation with objects animate and inanimate nature, environmental monitoring, security of nuclear materials,

facilities and installations of the nuclear industry and energy.