

Medical Physics

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: **167 700 rubles per semester**

Programme curator: **Vladimir N. Belyaev**

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The aim of the program: to get the bachelors, able to work successfully in the field of activities related to medical physics and nuclear medicine, radiation diagnosis and therapy, and have a universal subject-specialized competences, contributes to their social mobility and stability in the labor market.

The area of professional activity: the effect of ionizing radiation on humans and the environment, mathematical models of theoretical and experimental studies of transport and interaction of radiation with the human tissues and organs, research, development and technology, aimed at obtaining and processing of medical diagnostic images, design, experimental research and the introduction of instruments and methods for nuclear medicine, automated systems for image processing, pattern recognition.

Features of the curriculum: The curriculum of the bachelor program "Medical Physics" 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 (medical electronics, human's biology and anatomy, tomographic methods in medicine, basics of imaging, physics of medical imaging, medical equipment and radiation detectors, etc.). A large part of studying time is allotted for research practice, which will help to develop skills on working with modern equipment, on the using the methods of physics to solve practical problems in the field of radiation diagnosis and therapy, radionuclide diagnostics in medicine.

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The list of enterprises for practice and employment of graduates: Kurchatov Institute, Institute of Neurosurgery of N.N. Burdenko Academy of Medical Sciences, the Russian Cancer Research Center of N.N. Blokhin, Institute of Emergency Children's Surgery and Traumatology, Russian Scientific Center of Radiology and others.

Parts of the curriculum are taught in English

Specializations within this programme

The objects of professional activity

Modern medical diagnostic devices, devices for contact and contactless radiation therapy, particle accelerators, electronic systems of nuclear and physical facilities, radiation effects of ionizing radiation on humans and the environment, radiation technologies in medicine, mathematical models of theoretical and experimental researches of phenomena and laws of charged particle physics, transport and interaction of radiation with objects animate and inanimate nature.