Biomedical Nanotechnology (in English)

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

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

Language of study: **English**
Mode of study: **full-time**
Duration: **2 years**
Availability of free education: **yes**
Price: **196 820 rubles per semester**

Programme curator: **Zavestovskaya I.N.**
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Program goal: to educate Graduates, which will be able to work successfully in the activity fields related to nanomaterials for biomedicine, laser and other physical methods of medical diagnostics and therapy, with their universal and subject-specialized competencies that contribute to their social mobility and stability on the labor market.

Basic department: Department of laser micro and nanotechnology (№ 87), Laboratory of Bionanophotonics.

The scope of professional activity: nanotechnology for biomedical applications, material science, studies of the propagation and interaction of laser radiation with tissues and organs, research, development and technology to obtain and evaluate medical diagnostic images, experimental investigation and implementation of materials and methods for biomedicine.

The objects of the professional activity: materials and devices for photodynamic and sonodynamic therapy, hyperthermia, laser techniques for production and diagnostics of nanomaterials and nano-biosystems, materials for nanosensors of molecules for biomedical purposes, models in life science for experimental studies of nanomaterials and methods of medical diagnostics and therapy.

Features of the teaching plan: The Program consists of both the basic disciplines and special courses as nanotechnologies for biomedicine, fundamentals of laser biomedical technologies, nanosensorics for biomedicine, optics of nanosystems etc. A large amount of the teaching time is devoted to scientific research practices that will help to develop skills on modern equipment and machinery, skills of practical use of the methods of physics to solve practical problems in the field of radiology and radiotherapy, radionuclide diagnostics in medicine.

List of enterprises for practical training and future job: Rosatom State Corporation, National Research Centre “Kurchatov institute”, Research Institute of Neurosurgery named after N. N. Burdenko of the Russian Academy of Medical Sciences, Russian Oncological Scientific Center named after N. N. Blokhin, Russian Scientific Center of Radiology etc.

Specializations within this programme