Applied Physics

National Research ITMO University

Degree or qualification is awarded: **M.S. in Technical Physics**

Language of study: **Russian**
Mode of study: **full-time**
Duration: **2 years**
Availability of free education: **yes**
Price: **306 000 RUB per year**

Programme curator: **Vladislav Bougrov**
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The main peculiarity of the program is the optimal combination of organizational disciplines and project activities, including international projects, managerial activity, professional skills in information and computer technologies.

Specializations within this programme

Integrated analysis complexes and information technologies of FEC enterprises (CEP)

Professional course of training includes knowledge acquisition in the field of modeling, energy- and resource-saving processes in the chemical technology, information technologies in the physical experiment, processes and devices for the environmental protection, industrial ecology, systems of chemical technological processes control, instrumental analysis methods, health and safety, metrology, etc.

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Information technologies in thermal physics (CEP)

Collaborative educational program is focused on the qualified specialists training in the field of information technologies in thermal physics, energy- and resource-saving technologies and growth of the energy efficiency in different industrial sectors, computer technologies and modeling of physical processes, devices for the energy conversion, thermal processes management, energetic and ecological monitoring.

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Optoelectronic security systems

The master program offers high qualified specialists training in the field of optoelectronic systems of security and surveillance. Graduate students will also obtain practical and theoretical skills in laser physics and technology and complementary disciplines.

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Optoelectronic systems of information display and lighting design

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Progressive functional materials of electronics and optoelectronics

The master program offers high qualified specialists training with the competences and skills in the field of the development and examination of functional material properties, which have a potential application in micro-, nanoscale devices and optoelectronics of the new generation.

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Thermal and physical processes and technologies

The field of professional activity includes means and methods of human activity, related to the revealing, examination and modeling of the new physical phenomenons and regularities, the development and implementation of the new technologies on their basis, including energy- and resource-saving devices and systems, materials of various purposes in science-driven areas of technical and applied physics.

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Sensors and sensory networks

The purpose of the educational program is to train specialists in the field of sensorics and intelligent sensory decisions.

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Physics and technology of the optoelectronic information systems

The master program offers specialists training in the field of optoelectronics, oriented on the acquisition of theoretical knowledge and practical skills in data transmission, storing, processing and information display systems based on the optical and electrical methods.

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Laser Engineering

The training program includes the study of: laser physics and technics, human biology, biochemistry and biophysics (classes conducted by teachers of the St. Petersburg State Medical University. Acad. Pavlov), tissues optics, interaction of laser and optical radiation with biological environments.