Thermal physics and theoretical heat engineering

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Degree or qualification is awarded: **Researcher. Lecture-researcher**

Language of study: **Russian, English**
Mode of study: **full-time**
Duration: **4 years**
Availability of free education: **yes**
Price: **325 000 rubles per year**

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Goals of the Program
Training of highly qualified specialists for the State Corporation "Rosatom" and other Russian research centers and training organizations working in the field of creation and operation of machines and plants, producing, transforming and utilizing thermal and nuclear energy.

Characteristics of the scope and objects of professional activity
Fields of science, engineering and technology, covering the totality of problems areas "Electro and Heat Engineering", including: the development of nuclear energy technology of new generation based on fast reactors with a closed nuclear fuel cycle for NPP, design and operation of heat exchange equipment of power installations for different purposes , the development of diagnostic systems and automated process control in thermal and electric power stations.

Objects of the professional activity

- Fast reactors with a closed nuclear fuel cycle for NPP;
- thermal and nuclear power plants, fusion power plants, energy supply system enterprises, objects of small power, alternative energy sources;
- power units and combined-cycle gas turbine plants;
- heat pumps;
- fuel cells, hydrogen energy installation;
- Heat and mass transfer devices for different purposes;
- thermal and electrical network;
- cryogenics and superconducting equipment;
- installation of direct energy conversion;
- Environmental monitoring of the environment;
- coolants and working bodies of power and thermal technological systems;
- standardization system;
- system diagnostics and automated process control in thermal and electric power.

Brief description of the curriculum
Training can be conducted both in general working curricula and in individual work plans. When training on an individual curriculum, regardless of the form of education, training period is established by the organization itself, but it can not not exceed the period of study prescribed for the tuition.

Specializations within this programme