Nuclear Power Technologies of New Generation

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

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

Language of study: **Russian**
Mode of study: **full-time**
Duration: **2 years**
Availability of free education: **yes**
Price: **207 610 rubles per semester**

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Program Objectives: target training for the organizations of the "Proryv project" in the framework of the federal target program "Nuclear power technologies of new generation for the period 2010 - 2015 and up to 2020" and the "Innovation Development Program of Rosatom."

To develop the competences in the areas of professional activities as follows: new technological platform of nuclear power industry with transition to principally new safety level, introduction of Uranium-238 and SNF reprocessing products into the fuel cycle, development of nuclear power technologies of new generation based on fast reactors (BN, BREST) with closed fuel cycle for nuclear power plants to ensure the national demand in energy resources and enhance the effectiveness of use of natural uranium and spent nuclear fuel.

Objects of professional activity include nuclear power technologies of new generation based on fast neutron reactors (BN, Brest) with closed nuclear fuel cycle for NPP to ensure the country's needs for energy and more efficient use of natural uranium and spent nuclear fuel.

Structure of courses: basic courses of educational standards, common MEPhI classic courses, special general course of CNFC (closed nuclear fuel cycle) technologies, practical training in accordance with the topics of master's works and specialization of responsibility centers of the "Proryv project".
Special courses:

1. CNFC (closed nuclear fuel cycle) technologies.
2. Radiochemistry. Special chapters.
3. Fast reactors.
4. Neutronics of fast reactor core and CNFC.
5. Core coolants.
6. Fuel, construction and absorbing materials for fast reactors.
7. Spent nuclear fuel reprocessing.
8. Technology of Radioactive Waste Management.
9. Safety and ecology of CNFC.
10. Economy of CNFC.

Part of the curriculum is also implemented in English.

The base of industrial and/or scientific practice and employment: ROSATOM organizations of the "Proryv project" .

Specializations within this programme

Nuclear physics and technology

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