

# Information measuring systems of nuclear power plants and technologies of radiation experiment

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

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

Language of study: **Russian**

Mode of study: **full-time, part-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **80 860-110 900 rubles per semester**

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The aim of the program is academic training of qualified specialists in the area of information measuring systems, technologies of radiation experiment and automation of technological processes of nuclear fuel cycle.

The educational goals of higher professional education to be realized with the aid of the Bachelors's educational program "Information measuring systems of nuclear power plants and technologies of radiation experiment" concern

- Fundamental education in the area of general physics and mathematics combined with intensive engineering and scientific experiment practice according with the traditions of engineering-physics education of Moscow Engineering-Physics Institute;
- Training competence in design of engineering systems, devices and facilities for nuclear fuel cycle, information measuring systems for nuclear power plants and for technologies of radiation experiment;
- Personal and group development of communication, conflict management, self-management, group communication management.

The graduates of the program obtain general scientific and technical knowledge in the area of nuclear technologies, methods and techniques of non-destructive testing of nuclear elements and facilities, design of electronic devices and measuring systems of various application in the area of radiation experiment.

Professional area of graduates of the Master's program concerns:

- Research, analysis, design and development of information measuring systems of nuclear power plants;
- Technologies of safety analysis of nuclear reactors, radioactive waste treatment and closing fuel cycle;
- Development of methods and technologies for research and testing of new materials and facilities for nuclear reactors.

The Bachelor's degree course scheme includes such specific units as:

- Experimental radiation and nuclear reactor physics;
- Techniques and methods of measurement and calculation for nuclear power plants;
- Application of information technologies for automation of research and experiment;
- Information measuring systems of nuclear power plants;
- Nuclear and radiation safety.

The student has a possibility to take practice in obtained skills in a number of nuclear fuel fabrication enterprises and scientific and design-engineering assets of Russian nuclear industry: OJSC "VNIINM im. A.A. Bochvara", OJSC "Mashinostroitelny zavod", National Research Centre (NRC "Kurchatov Institute"), JSC (Joint Stock Company) "NIKIET", JSC "VNIIT", OKB "GIDROPRESS", Russian Federal Nuclear Center VNIIEF, Russian Federal Nuclear Center VNIITF, S.P. Korolev Rocket and Space Corporation «ENERGIA», FSUE VO "Safety".

## Specializations within this programme

## **Nuclear physics and technologies**

Objects of professional activity of graduates of the Master's program are:

- Nuclear reactors and nuclear power plants;
- Atomic nucleus;
- Thermal hydraulic and neutron physical processes in nuclear reactors active zones;
- Methods of energy transformation;
- Radiation measurement and control;
- Coolants;
- Nuclear reactor materials;
- Nuclear fuel cycle;
- Safety provision systems;
- Systems of operation of nuclear facilities;
- Programs and mathematical models for theoretical and experimental research of phenomena and mechanisms of nuclear power;
- Nuclear physics