

# Electronic measuring systems of physical installations

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

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

Language of study: **Russian**

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

Duration: **5,5 years**

Availability of free education: **yes**

Price: **37 570 - 120 800 rubles per semester**

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## Goals of the Program

To train highly qualified specialists able to work successfully at the enterprises of the nuclear industry, nuclear research organizations and design institutions of a wide profile; with universal and subject-specialized competencies that ensure their social mobility and stability on labor market.

## Basic department

Electronic measuring system

## Characteristics of the scope and objects of professional activity of future graduates

Development of systems for collecting and processing data on the basis of modern microprocessors, programmable logic and analog integrated circuits; design of electronic circuits for different purposes, systems on a chip, sensors and transducers; development and debugging of software for computing and measuring systems; mathematical modeling and computer processing of results of experimental researches of physical and technological processes; environmental monitoring and monitoring psycho-physiological condition of workers; safety of nuclear materials, facilities and installations of atomic industry and energy.

## Brief description of the curriculum

General cultural, natural Sciences, fundamental physics, mathematics and engineering training; the study of certain special subjects: "the Sensors of physical quantities, Measurement of parameters of electromagnetic processes", "Measurement of parameters of fast processes", "information Channels", "Analog devices integrated measurement systems", "digital electronics of measuring systems", "Virtual electronics", "Telecommunication systems", "Methods and means of digital signal processing", "Databases of information-measuring systems", "Mathematical modeling in the data analysis, Local network and their programming", "Operating systems measurement systems"; research and practice in the Department and leading the industry.

## Modules

1. Humanitarian module (basic training in Humanities for all-round development of personality).
2. Natural science module (basic training in natural Sciences for the development of professional knowledge).
3. Professional module (training on General disciplines necessary for the development of specialty).
4. Professional module (in-depth theoretical and practical training in the specialty).

## The base of industrial and/or scientific practice and employment

Research Institute of Automatics N. L.Spirit, research Instruments, scientific research Institute "Aileron", all-Russian research Institute of experimental physics, FSUE "RFNC - VNIIEF", JSC "Industrial-innovative Progress", and other

Russian scientific centers, enterprises of Rosatom, RAS institutes.

## **Specializations within this programme**

### **Objects of the professional activity**

Electronic systems of nuclear and physical installations, systems ensuring their functioning and safe operation; information-measuring systems; automated control systems of nuclear reactors and nuclear-physical installations; software and hardware control systems, diagnostics, control and protection of nuclear and physical installations; electronic systems for medical and diagnostic purposes.