

Electronic measuring systems for physical installations

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**

Programme curator: **Alyushin M.V.**

Tel.: **Contact name: Olga N. Petukhova, Phone number. +74957885699, ext. 8045.**

E-mail: ONPetukhova@mephi.ru

Goals of the Program

To increase the degree of bachelor's and specialists to prepare qualified masters are 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

The area of professional activity: 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 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

Generic and engineering training in nuclear technology; the study of certain special subjects: "Measurement of parameters of electromagnetic processes", "Measurement of parameters of fast processes", "information Channels", "Analog devices integrated measurement systems", "Analog-to-digital and digital-to-analog converters", "virtual Microprocessor technology electronics, engineering, design and technology automatic electronic and microelectronic systems physical installations and automated systems of scientific researches", "Telecommunication systems, Design, programming and security local area networks", "Digital signal processing", "Designing electronic systems", "Designing microprocessor-based measuring systems", "network and their programming", "Architecture and programming of microprocessor systems", "Operating system"; research and practice in the Department and leading the industry. Part of the curriculum is also implemented in English.

Modules

1. General module (basic training on humanitarian, natural scientific and General professional disciplines for comprehensive development of personality);
2. Professional module (special course for mastering the basics of the profession).

The base of industrial and/or scientific practice and employment

Research Institute of Automatics named after. N. L.Spirit, research Instruments, scientific research Institute "Aileron", 1

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.