

# Secure Automated Systems of Data Processing and Management

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: **156 000 rubles per semester**

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## Goals of the Program

Program purpose is to train highly qualified experts in the field of automated data processing and control systems that meet the modern information security requirements, for employment in defense industry, energy sector, research organizations and government agencies.

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

The professional activities of graduates are focused on secure automated data processing and control systems (SADPCS); computing systems and networks; methods and tools for design, modeling, experimental research, and control of secure automated systems; and mathematical, informational, technical, linguistic, software, ergonomic, organizational, and legal support of specialized automated systems. Graduates can pursue a career at research institutes of the Russian Academy of Sciences, nuclear and other high-technology industries.

## Objects of the professional activity

Computers, complexes, systems and networks; automated systems of information processing and management; computer-aided design and information support of industrial product life cycle; software, computer equipment and automated systems; mathematical, informational, technical, linguistic, software, ergonomic, organizational and legal support for the systems.

## Brief description of the curriculum

The curriculum of the program is based on the fundamental training of students in the core subjects, as well as academic and practical experience of the department, gained in the course of various projects for creation of SADPCS for various branches of the national economy and defense. Students acquire skills of formalization of intellectual problems, knowledge of scientific, engineering and technological software. Much attention is paid to the study and practice of the project management and design to create SADPCS. Part of the curriculum is also implemented in English.

The curriculum of the program includes intensive training in circuit design disciplines, programming, operating systems, database systems, analysis and design of secure automated systems. The curriculum includes a large amount of scientific research (R&D) work performed by future researchers and scientists.

The skills acquired by the students during the study of professional disciplines included in the basic and optional parts of the program, as well as during carrying out of research projects, prepare the graduates for successful work in all high-technology industry sectors.

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

The researches performed by the students are carried out at the Department No. 29 in collaboration with the

International Nuclear Safety Centre and the Russian Research Institute for Nuclear Power Plants Operation, as well as at the department partner companies, such as Concern Morinformsystema-Agat, and Concern PVO Almaz-Antey.

## **Specializations within this programme**

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

Computers, complexes, systems and networks; automated systems of information processing and management; computer-aided design and information support of industrial product life cycle; software, computer equipment and automated systems; mathematical, informational, technical, linguistic, software, ergonomic, organizational and legal support for the systems above.