Secure High Performance Computer Systems

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

The program is aimed to the preparation of high qualified masters in the field of computer systems and technologies for the staffing of research institutes, enterprises of the nuclear, defense and other high-tech branches.

Feature of the preparation

The program provides the formation of skills in the area of high-performance computing, including the use of hybrid supercomputing technology, development of digital equipment using advanced methods and tools for designing FPGA. Graduates with the master degree possess competences in the field of information systems architecture, secure system and application software development (including mobile platforms oriented software). Much attention is paid to the preparation of the competitive persons in the interests of high-tech industries informatization in a globalized world information space.

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

- development of computer systems and networks;
- design of digital equipment with the FPGAs;
- development of system and application software;
- comprehensive analysis of the information systems security.

Brief description of the curriculum

The curriculum fully complies with the State Educational Standart-3 and with the basic disciplines includes unique disciplines of the variable part ("Automatic Machines Theory," "Discrete Mathematics," "Theory of Probability and Mathematical Statistics," "Interfaces and external devices of computing systems," "Low-level programming," "Computer and Systems Organization," "Microprocessor Systems"). Part of the curriculum is also implemented in English.

Disciplines of the variable part train the graduates to be successful in all modern high-tech sectors with modern information-managing and communication technologies. The curriculum comprises the large number of subjects that can be chosen by a student according to personal preferences. The curriculum provides advanced training in the field of modern secure information technologies.

The base of industrial and/or scientific practice and employment

- MEPhI;

- State Atomic Energy Corporation "Rosatom";

- Public Corporation Concern PVO Almaz-Antey;

- PLC MCST;

- Open Computer Systems Holding;

- Federal Financial Monitoring Agency (Federal Financial Monitoring Service);

- Systemprom Concern, etc.

Specializations within this programme

Objects of the professional activity

- computer systems and networks in a secure realization;

- automated systems for information processing and management;

- computer-aided design systems;

- automated systems software;

- damaging software elimination tools.