

# Blockchain technology is the communication foundation of the digital economy

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Degree or qualification is awarded: **Master's degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **2 years**

Availability of free education: **yes**

Price: **123 700 rubles per semester**

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## PROGRAM DESCRIPTION

### The purpose of the program:

Training of highly qualified masters in the field of computer systems and technologies to provide personnel for research institutes, enterprises of nuclear and other high-tech industries.

### Abstract:

The program provides the formation of competencies in the field of distributed registry technologies (blockchain), including system and application software for economic, legal and other sectors of industry and business; algorithms and programs for the design of intelligent systems; architecture of modern data storage systems with multiuser access.

Graduates of Master's degree also have competences in the field of architecture of software systems with the use of blockchain technology, high-performance systems, development of protected system and application software using distributed register as a guarantee of data safety and verification.

The field of professional activity of graduates under the master's program "Blockchain technology - the communication basis of the digital economy" includes: intelligent systems and databases using blockchain technology, development of system and applied software, development of financial cryptocurrency systems, development of algorithms for smart contracts for various purposes, development of algorithms and decision making software by means of voting, complex analysis of security of information systems, in which it applies.

### Actuality of the program:

The experts with knowledge of peculiarities of designing and operation of financial cryptocurrency systems, peculiarities of development of algorithms of smart contracts of different purposes, peculiarities of development of algorithms and decision making software by means of voting are in demand in the labor market as never before. Competencies acquired by the graduates of the program in the study of professional disciplines, as well as in the performance of research and development / practice, prepare future masters for successful work in all high-tech areas where it is required to apply modern technologies that form the basis of the digital economy. Graduates of MEPhI traditionally have wide opportunities for professional and career growth in the leading companies-developers of computer systems and research and innovation centers.

### **Basic disciplines:**

Information systems architecture	Distributed registry technologies
Cryptographic methods of information security	Operating system architecture
Computer systems	Hybrid supercomputer technologies
Intelligent systems	Data science and big data analysis

### **PROFESSIONAL ACTIVITY**

#### **Graduates' competencies:**

During the training the graduates of the master's program form professionally-specialized competences in the field of creation and maintenance of financial cryptocurrency systems, development of algorithms of smart contracts for different purposes, development of algorithms and decision making software by means of voting. Graduates of the program are able to integrate into the modern world of digital economy, where blockchain technology is actively used.

#### **Demand in the labor market:**

Our graduates successfully carry out the professional activity in such well-known organisations, establishments as:

- MEPhI;
- at the leading enterprises of the state corporation ROSATOM;
- JSC "MTSST";
- at the leading enterprises of the defense industry (JSC Concern Air Defense "Almaz-Antey", etc.);
- at the leading institutes of the Russian Academy of Sciences.

#### **Practice and internships:**

Within the framework of their training, master's students undergo practical training and carry out research and development work at the enterprises of the state corporation ROSATOM, large IT-companies, MEPhI and target enterprises and partner enterprises, such as Almaz-Antey Air Defense Concern OJSC, ICST JSC.

### **Specializations within this programme**