

# Architectures of modern intelligent systems

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 the highly qualified masters who have received the profound fundamental and applied training in the field of the theory and intellectual technology of construction of modern intellectual systems of a wide purpose, for maintenance of the personnel of the enterprises and the organizations of the hi-tech branches of the Russian science and industry.

### Abstract:

The curriculum provides enhanced training in the field of building the most common classes of intelligent systems based on knowledge in such areas as static, dynamic and integrated expert systems, intellectual agents and multi-agent systems, intellectual dialogue systems, intellectual learning systems, etc.; in the field of creation and application of tools and intellectual technologies to support the development of intellectual systems; in the sections of discrete mathematics; yes Part of the educational modules of the program is also implemented in English. The central place in the curriculum of students is occupied by research work under the guidance of scientists involved in scientific projects in the actual areas of fundamental and applied research. This allows students to develop the ability to work in a team, think critically, generate new ideas, as well as demonstrate skills of independent work.

### Actuality of the program:

Software engineering - application of a systematic, disciplined, measurable approach to software development, operation and maintenance. Currently, the software industry is actively developing and is a full-fledged area of modern Russian and world economy. Qualified specialists in software development are constantly lacking, and this trend will continue in the future. Modern specialists in the field of industrial software development should have wide training in the field of system and applied software development for various purposes, which determines the relevance of the program.

### Basic disciplines:

Methodology of software engineering

Biologically motivated cognitive architectures

Machine learning

Audiovisual information processing

Designing knowledge-based cyber systems

Models and methods of knowledge presentation and processing

## PROFESSIONAL ACTIVITY

## **Graduates' competencies:**

Graduates of the program have specialized practice-oriented competences in software engineering and applied mathematics. Graduates are able to carry out effective management of software development and projects; are able to develop and upgrade software and hardware for information and automation systems; are able to apply methods and means of obtaining, storing, processing and transmitting information by means of modern computer technologies, including those used in global computer networks; use modern computing equipment, multiprocessor supercomputers and specialized software; capable of critical and creative thinking, rethinking the experience gained; capable of business communication in oral and written forms in the official language of the Russian Federation and a foreign language.

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

Our graduates are in demand on the Russian and international labor market and hold leading positions in such state organizations and commercial companies, scientific institutes, universities and research laboratories as:

- MEPhI
- Rosatom State Corporation
- RAS institutes
- VNIIA named after Dukhov
- Kurchatov RSC
- Microsoft
- Intel
- Samsung
- Sberbank Technology
- Yandex.
- Kaspersky Lab
- 1C
- Rosbank
- Moscow Exchange
- BPC and others.

## **Practice and internships:**

As part of their training, students undergo practical training in major scientific centers of the Russian Academy of Sciences, in enterprises of the state corporation ROSATOM, as well as in large IT-companies.

## **Specializations within this programme**