Highly-Critical Cybernetic Systems Development Technologies

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, who received advanced training in the field of mathematical modeling, technologies of development of highly critical cybernetic systems, to provide the staff of enterprises and organizations of high-tech industries of Russian science and industry.

Abstract:

The curriculum provides enhanced training in discrete mathematics; databases and intelligent systems and technologies; technologies for the development of various cybernetic systems; models of physical processes of nuclear systems and technologies. 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	Software lifecycle management
Cyber systems database design	Basics of automated information technologies
Machine learning	Web application design

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: НИЯУ МИФИ

·	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