

System analysis and lifecycle management of complex systems

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Degree or qualification is awarded: **Bachelor degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **49 140- 110 900 rubles per semester**

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The goal of the program: to train "three-dimensional" system engineers in its competency terms, which technical knowledge should be combined with profound technical knowledge and powerful management skills.

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

- Systematic analysis of the applied area, the formalization of the decision of applied tasks and processes of complex socio-technical systems;
- Development of requirements for the creation and development of complex socio-technical system and its components at all stages of the life cycle;
- Modeling socio-technical systems and their life cycle;
- Implementation of project solutions using modern information and communication technologies and programming technologies;
- The application of the main approaches to evaluation, control, quality management and risk management of the life cycle management of socio-technical systems;
- Project management of informatization of enterprises and organizations;
- Management of innovation and change in the life cycle of complex technical objects
- Problem solving in the life cycle stages of socio-technical systems in conditions of international, inter-disciplinary, multicultural environment in distributed mode using collaboration tools.

Brief description of the curriculum (features, benefits): students are taught disciplines of engineering unit (physics, mathematics, fundamentals of cybernetics, engineering graphics, electronics, electrical, etc.) And discipline of management unit (organizational management, technology of management, risk management, basic theory of innovation, analysis and management of requirements, project management, etc.). Systems analysis and systems engineering are the basic general professional disciplines. Most studies on subjects of management unit are based on practical work in creative teams and allow each of the trainees receive and retain the knowledge and skills of the successful development of new technical and management solutions, process control of their creation.

During the final state certification students perform a project in the field of system engineering, including preparation of the forecast development, risk identification, research and identification of key tasks, their refinement, the gathering of information, the search for new solutions and select the most efficient, drawing up a comprehensive plan of adoption of innovations and measures for training for its functioning, preparation and filing of the application for the invention.

The base of industrial and/or scientific practice and employment: services of elaborations Innovative high-tech branches of industry, engineering centers, research institutions.

Specializations within this programme

System Analysis and Management

Objects of the professional activity: complex socio-technical systems and their life cycles, including system-analytical, information and control, engineering and technological, design technologies and systems that require research,

analysis, synthesis, programming and management through a systematic and analytical approach.