Applied Mathematics and Computer Science

South Ural State University

Degree or qualification is awarded: **Bachelor's Degree**

Language of study: **Russian**
Mode of study: **full-time**
Duration: **4 years**
Availability of free education: **yes**
Price: **151 800 rub.**

Programme webpage at the university website:
https://www.susu.ru/en/education/bachelors-specialist-degree-programs/010302-applied-mathematics-and-computer-science

Programme curator: **Marina Sartasova**
Tel.: **+7 (351) 267-90-43 / +7 (351) 267-91-15**
E-mail: sartasovami@susu.ru / pmfdek@susu.ru

Applied Mathematics and Computer Science combines classical mathematical study and the study of modern information technologies which ensures the development of fundamental analytical skills, systems thinking and the ability to find optimal solution to the problem. Specialists in this field are in high demand as they have all the necessary knowledge to work at any stage of creating a solution to an applied problem: from creating a mathematical model to developing software. Understanding of the entire process of solving a problem allows for high career mobility and professional growth.

The areas of professional competence of graduates are forever relevant branches of information technology, requiring the use of modern mathematics and programming: robotic systems, industrial automation and optimization, Big Data, computer vision, antivirus systems, cloud technology, mobile applications and payment systems.

Curriculum includes disciplines that provide fundamental training in the application of mathematical methods and models in regards to the problems of analysis, optimization, forecasting and management. In addition, the main educational program contains in-depth courses on the development and implementation of software, database design, information security and the use of artificial intelligence in solving applied problems. One of the advantages of graduates of the Applied Mathematics and Computer Science is the possibility of continuing education through the master's programs related to in-depth study of programming, information technologies, and applications of mathematics in physics, mechanics, and economics.

Future graduate professions: systems analyst; database analyst; system and application programmer; system engineer; database administrator; computer network administrator; software engineer; mathematician; teacher of mathematics and computer science.

Specializations within this programme

Mathematical and software of computers and systems

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Mathematical Methods of Ensuring Software Systems Security

This educational programme includes studying the mathematical methods of protecting information and software systems, mastering modern technologies of programming required for ensuring the security of computer networks and software. The combination of the fundamental mathematical education with in-depth training in programming provides the graduates with the possibility to understand and master new methods of information protection, develop and justify their own solutions, and not just use the ready-made schemes.