Computer Science and Computing Engineering

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/computer-science-and-computer-engineering-field

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Bachelors study electrical engineering, electronics, circuitry, hardware of modern computers, microprocessors, computer architecture, computer networks at various levels and cloud technologies.

In software part we study languages and programming technologies: assembler, C++, C#, JAVA; web programming; operating systems Linux, Unix; databases (MS SQL server). Also studied intelligent technology and systems engineering.

Specializations within this programme

Computing Machinery, Complexes, Systems and Networks

09.03.01 Computer Science and Computer Engineering (Computer Engineering, Complexes, Systems and Networks)

In terms of hardware, bachelors study electrical engineering, electronics, circuitry, hardware of modern computers, microprocessors, computer architecture, computer networks of various levels and cloud technologies.

As for the software, programming languages and technologies the following is taught: assembler, C ++, C #, JAVA; Web programming; Linux, Unix operating systems; database (MS SQL server). Intelligent technologies and systems engineering are also part of the program.

Automated Data Processing and Management Systems

Computer Science and Computers (Automated Business Process and Finance Management)

The graduate will gain knowledge of the basics of theory and practice of management, corporate and industrial management, modern methods and decision-making technologies, as well as computer systems for planning material and financial resources of enterprises, production management and marketing.

The field of professional activity is computer information and analytical support for the activities of corporations of various Field ofs, such as industrial, commercial, financial.

Informatics and Computer Engineering (Data Processing and Artificial Intelligence Methods)

The educational programme advantages:

- Education obtained under this programme allows you to create an attractive professional profile for the labour market;
- Students master up-to-date mathematical methods of modelling, control, analysis and synthesis of information processing algorithms, and also gain skills in implementing the developed approaches in real information management processes;
- Programme provides training in data analysis technologies, complexity of algorithms and information systems, methods for using artificial intelligence systems, methods for constructing and researching real systems models, methods and technologies of systems analysis, as well as methods and technologies for forecasting the directions of systems development;
- Final projects and research works, for the most part, are based on practical tasks dedicated to solving both applied and fundamental problems;
- Ability to work in the framework of initiative fundamental and applied projects and grants, including international ones;

As a result of mastering the programme, graduates have excellent skills in:

- Analyzing, processing and storing data, using up-to-date methods of information analysis and computer technology;
- Basics of research and applied activities using the modern mathematical apparatus, and artificial intelligence methods using high-performance computer and network technologies;
- Developing data processing algorithms in various high-level programming languages to solve a wide range of applied problems; in implementing the proposed solutions, in the effective application of modern mathematical methods of the theory of optimization and control, modelling, analysis, synthesis, and data processing algorithms.

Field of future profession:

Today, a data analysis specialist is one of the most promising professions. The scope of activities of this type of specialists is the following:

- resource and energy saving;
- oil and gas industry;
- development of intelligent automatic process control systems in various industries;
- development of algorithmic support for intelligent measuring instruments;
- development of algorithmic support for automatic process control systems in the energy sector;
- nanotechnologies;
- development of algorithmic support for technological processes in metallurgy;
- analysis of industrial, commercial and consumer markets, and development of expert systems;
- intellectual support in making managerial decisions in technical, economic and social systems.

The graduates of this Bachelor's degree programme are trained to work in scientific institutions, companies involved in the development and implementation of intelligent systems, as analyst programmers, expert systems developers, artificial intelligence specialists, or specialists in the development of technological solutions for industrial, commercial and consumer markets.