

Construction of Unique Buildings and Structures

South Ural State University

Degree or qualification is awarded: **Specialist's degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **5 years**

Availability of free education: **no**

Price: **151 800 rubles**

Programme webpage at the university website:

<https://www.susu.ru/en/education/bachelors-specialist-degree-programs/080501-construction-unique-buildings-and-structures>

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Specialist's program is based on the FSES 3+ requirements. Graduates have all the necessary skills to work in the professional field of activity.

Areas of professional activity

Engineering surveys, design, construction, operation, and technical re-equipment of unique buildings and structures; engineering support and equipment of unique buildings and structures; conducting research in the theory of unique buildings and structures.

Objects of professional activity

- industrial and civil buildings and structures;
- high-rise and long-span buildings and structures;
- underground facilities;
- hydrotechnical and hydropower facilities;
- thermal and nuclear power facilities;
- specialized facilities for road transport;
- highways, airfields and special facilities;
- special purpose facilities

Professional activities

- installation and commissioning;
- production technology and production management activities;
- survey, design and calculations;
- experimental research

Professional tasks

Innovation, research and design activities:

- collection, systematization and analysis of source data for the purposes of design of unique buildings, structures, engineering systems and equipment;
- feasibility study and making design decisions, coordination of work on parts of the project, design of parts and structures;
- calculation and design of unique buildings and structures using licensed computer-aided design tools;
- preparing design and working documentation, finalization of documentation concerning completed construction objects;

- development of methods and software for calculating the design object, calculation support for design and working documentation;
- development of innovative materials, technologies, structures and systems, including the use of scientific achievements;
- ensuring conformity of developed projects and technical documentation to the given task, standards, norms, rules, specifications and other executive documents;
- supervision of project implementation;

Production and technological activities:

- organization of workplaces, acceptance and placement of technological equipment;
- organization and improvement of the production process at an enterprise or a site, control over the observance of technological discipline, maintenance of process equipment and machines;
- implementation of new materials, equipment and technological processes in the field of construction;
- development and improvement of quality control methods for construction, organization of metrological support of technological processes;
- development and implementation of environmental safety measures, control over their observance;
- organization of work of small groups of workers, developing staff work plans and managing payroll funds; control over the observance of technological discipline;
- development and execution of technical documentation (schedules, instructions, plans, estimates, applications for materials, equipment), as well as writing reports in accordance with approved forms;

standardization and preparation for certification of hardware, systems, processes, equipment and materials;
development of documentation and implementation of the enterprise quality management system;

- carrying out organizational and planning calculations for the reorganization of the production site;
- development of operational work plans for the production unit;
- analysis of the costs and results of operations of the production unit;
- experimental research activities:
- study and analysis of scientific and technical information, domestic and foreign experience;
- use of licensed CAT tools and research packages;
- organization and development of methods for conducting experiments, compiling descriptions of conducted research and systematization of results;
- preparation of data of reviews, reports, scientific and other publications;
- preparation of reports on the work performed, participation in the implementation of research results and practical developments;

Installation and commissioning activities:

- installation, commissioning, testing and commissioning of structures and equipment for construction sites;
- testing of equipment and technological support;
- checking technical condition and residual life of construction objects, equipment;
- organization of preventive inspections and maintenance;
- acceptance and development of equipment;
- preparation of applications for equipment and spare parts, preparation of technical documentation for repairs;
- preparation of equipment operating instructions and test programs.

Specializations within this programme

Construction of Unique Buildings and Structures

The educational program 08.05.01 Construction is developed on the basis of FSES 3+ taking into account needs of the regional labor market, traditions and achievements of scientific and pedagogical school of the University in accordance with requirements of the Federal legislation.

The goal of the educational program 08.05.01 Construction is development of cultural and professional competences in accordance with FSES 3+ and training of qualified and competitive specialists in the field of Construction;

development of autonomy students for the purpose of creating self-sufficient employees.