

Civil Engineering

Peter the Great St. Petersburg Polytechnic University

Degree or qualification is awarded: **Bachelor of Civil Engineering**

Language of study: **Russian**

Mode of study: **full-time, extramural**

Duration: **4 years**

Availability of free education: **yes**

Price: **210 200 - 219 600 rubles**

Programme webpage at the university website:

<http://www.spbstu.ru/education/students/description-of-educational-programs/>

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Design and construction of river and marine hydraulic engineering construction, civil industrial engineering, unique construction; for human resourcing in construction and housing and public utilities, exploitation of hydrotechnical engineering facilities, construction planning and economics, management of investment projects.

Specializations within this programme

Bridges and tunnels

The goal of the program - training of highly qualified specialists of designing, constructions, operation, reconstruction and repair of the bridges and transport tunnels demanded in the Russian and international labor markets on the basis of integration of educational process with science and production; concentration of efforts to preserving and reproduction of a scientific personnel of high qualification; accomplishment of the research works capable to provide implementation of innovations in a road industry.

The concept of training of specialists in the road branch consists in training of students on the basis of integration of educational activities with road-building production, customers and consumers of educational and consulting services; developments and implementations of perspective projects on development planning of transport and logistic structure of the Northwest region, St. Petersburg and municipalities; implementations of the innovations in educational process allowing to train highly qualified specialists according to requirements of reproduction of road infrastructure and development of transport system of Russia; carrying out scientific research at the level providing their demand in the Russian and international markets of scientific and technical products. Disciplines of a profile by the curriculum: Designing of traffic intersections; Researches and design of road bridges and transport tunnels; The Automated designing of transport constructions; Production base of road economy; Construction machines and the equipment for construction bridges and tunnels; Planning and management in a construction of road bridges and transport tunnels; Methods and management models in road construction; Road conditions and traffic safety; Designing and a construction of artificial constructions on highways; Economic-mathematical methods in designing and a construction of transport constructions; The Theory of risks during the designing, a construction and operation of transport constructions; Technology and organization of a construction (reconstruction) of road bridges and transport tunnels; Engineering ecology in a transport construction; Computer-aided engineering systems of road bridges and transport tunnels; Transport layout of the cities; construction materials for a transport construction; Traffic intersections; Operation of road bridges and transport tunnels; Management of road economy; Bridges and transport

tunnels; Geographic information systems in road construction; Organization of traffic; Engineering constructions in a transport construction; The faculty consists of the highly qualified specialists having long practical experience in project and construction activities.

Hydrotechnical engineering

The purpose of this program is to train bachelors with the skills of design and construction of sea and river hydraulic structures, industrial and civil buildings to meet modern standards of reliability, safety and cost-effectiveness. A special feature of the program is implemented by the availability of courses of disciplines, allowing knowledge on design and construction of unique objects of sea and river hydraulic engineering, operating in particularly difficult circumstances. The concept of training is to provide learning opportunities for three years at the university and the annual training in a European partner institution to give, as a rule, two bachelor's degrees - Russian and European standard. Bachelor of preparing for the following types of professional activity:

- Surveying and engineering;
- Production and technology, production and management;
- Experimental research.

The uniqueness of the program is as follows:

1. Education is integrated into the global education system. Invited by mutual sharing of the world's leading experts - professors to give lectures, in English... To each student is given the opportunity of learning from one semester to a year abroad (in dual degree programs and student exchange with leading universities in Europe). Reports for the course, integrated design and final qualifying work is partially conducted in English.

2. Study of new information technologies:

- The design of civil engineering constructions in the field of transport, land use and infrastructure (AutoCAD Civil 3D);
- Calculations for strength and stability (SCAD);
- Architectural design of industrial and civil buildings and structures (Autodesk Revit);
- Construction Economics, Financial Management, Financial Management; Estimated business and investment (SmetaWizard).

3. Using a virtual environment moodle for more information, as well as for communication of teachers and students.

Graduates have job opportunities in organizations associated with the design, construction and operation of hydraulic and industrial and civil buildings. Bachelor of Education prepared for continuation in a magistracy in a direction "Building".

Civil Engineering and Urban Planning

Goal of the program is to prepare experts in the field of construction engineering and management, design, providing calculations of project and engineering documentation. Professional activity objects of graduates are industrial and civil buildings, engineering and environmental construction; building materials, products and structures; heat and gas supply, electricity, ventilation, water supply and sewerage of buildings and settlements; environmental facilities and objects of the natural environment, interacting with the buildings and structures; real properties, land and urban areas. Special aspects of bachelor preparation on a profile " Construction Engineering and Management" is the inclusion in the curriculum of special subjects that are necessary to provide a deep knowledge in the field of energy and resource efficiency, waste management of production and consumption, regulatory and municipal management. Disciplines of base module of the field of study are: Engineering drawing in construction; Architecture; Strength of materials; Hydraulics; Specialty Introductory Course; Building construction; Module "Chemistry and Construction Materials"; The module "Building services in construction"; "Mechanics" module. Modules of professional-orientated orientation: "Engineering support of special

municipal facilities"; "The technology, organization and economy of construction"; "Engineering systems of buildings and structures."

Industrial and Civil engineering in difficult ground conditions

The purpose of the program - training Bachelor-builder at international level for industrial and civil construction with objects of design skills in critical natural environments such as areas that are close to water bodies and subject to flooding and flooding, building on the strengths and alluvial soils, as well as disturbed and contaminated areas.

A special place in the program occupy the disciplines involved in the construction of hydraulic engineering. An integrated approach to the construction in which the program is built, dramatically increases the competitiveness of graduates in the labor market. Efficiency and unique learning occurs through a comprehensive approach, based on the receipt of the deep fundamental knowledge and study of advanced information technology (Autodesk Revit, Auto CAD, Sivil 3D, SCAD, MapInfo, Arc GIS, CorelDraw, Photoshop), and others.

Students are given the opportunity to study for three years at the university and the annual training in a European partner institution to give, as a rule, two bachelor's degrees Russian and European standard. The objects of professional activity of graduates are:

- Industrial, civil buildings, engineering, hydraulic engineering and environmental facilities;
- Building materials, products and structures;
- Heat, electricity, ventilation, water supply and drainage of buildings and settlements;
- Environmental objects and objects of the natural environment, interacting with the buildings and structures;
- Real estate, land, urban areas and transport infrastructure;
- Urban infrastructure and housing and communal services;
- Machines, equipment, process systems and automation systems used in the construction, operation, maintenance, repair and reconstruction of building objects and objects of housing and communal services, as well as in the production of building materials, products and structures.

Upon completion of training graduates can find jobs in construction and design organizations in accordance with the professional activities.

Industrial and civil construction of unique buildings and structures

The program focuses on training highly qualified specialists of industrial and civil construction, design, ensuring design and working documents, including the use of universal and specialized software and computer systems, CAD systems of buildings and structures. After graduation on the program the graduate will have a high level of competitiveness in employment in the construction and design organizations.

Theoretical knowledge and practical skills acquired by graduates provide an opportunity to self-realization in the Russian as well as foreign companies.

The purpose of the program - training international level specialist builder of industrial and civil construction with a bias training of construction of unique buildings and structures. The concept of training is to provide the opportunity to study for three years at our university and one year in the European partner university to obtain, as a rule, two bachelor's degrees - Russian and European standard.

Bachelor is preparing for the following types of professional activity: design, management, and surveying-finding, research and teaching, installation and commissioning, and service-operational. The uniqueness of the program is the following:

1. Education is integrated into the world system of education;

2. The study of advanced information technologies;
3. Using the virtual environment "Moodle" for additional information, as well as for communication of teachers and students.

Normative period of education in a bachelor degree is 4 years. Education is possible for full-time and correspondence forms. There is the possibility of targeted training. Education is carried out on the budget (only full-time) and contract basis.

Motorway engineering

Design, construction, exploitation, reconstruction and repair of motorways and highway.