

**Code and name of specialty (direction):** 192 "Building Industry and Civil Engineering"

**Title of specialization:**

**Code and title of the field of knowledge:** 19 "Architecture and Building"

**Qualifications:** Master's Degree in Building Industry and Civil Engineering

**Number of credits:** 90 ECTS credits

**Grade of higher education:** the second, master grade, corresponds to the seventh qualification level of the Ukrainian National Qualification Framework.

**Requirements to the previous education grade:** an individual has the right to get Master's Degree subject to having Bachelor's Degree in any specialty. Nostrification will be required if the previous grade was obtained in another country.

**Qualification requirements:** the document on higher education is issued to a person who successfully completed an educational program and got a certificate. Final certification is carried out by means of evaluation of the level of competences formation. The form of certification provides for the state exam on professional disciplines and defense of the Master's Thesis.

**Program study results:** to use conceptual knowledge including the knowledge of the modern achievements in the sphere of professional activities; to conduct research and implement innovations in a particular sphere of professional activities or in the process of teaching characterized by uncertainty; to integrate and interpret information, choice of methods and tools to solve professional problems; to apply innovative approaches and forecasting; to communicate information, ideas, problems, its own conclusions as well as knowledge and explanations in the sphere of professional activities to specialists and non-specialists; to manage complex actions or projects; to form a communication strategy; to speak foreign language at a professional level; to be responsible for professional development of individuals and/or group of individuals; to be responsible for decision-making in unpredictable conditions that requires new approaches and forecasting; to study with high level of autonomy.

**Teacher professional activities:** to have a teaching strategy at higher school based on the standards of the Bologna process; to plan and implement the educational process at higher school using modern teaching systems.

**Research professional activities:** to prove expediency of research study and develop the plan of its implementation; to use mathematical tool to model processes

in structures and systems, computer methods of models implementation, to work out calculation methods and means of design automation; to make formulation of scientific and technical task, to choose methodical means of solving it, to prepare data for reviews, reports, scientific and other publications; to make a statement and conduct experiments, metrological support, collection, processing and analysis of results, identification of theory and experiments; to work out and use databases and information technologies to solve scientific and technical, technical and economic tasks according to the field of activities; to present the results of the performed work, to organize implementation of research results and practical development.

**Design and technology professional activities:** to collect, systematize and analyze information source data to design buildings, structures, engineering systems and equipment, to plan and build settlements; to improve and develop sophisticated engineering procedures of building industry, building materials, products and structures as well as production of machinery and equipment; to work out and improve methods of quality control of building, products being produced, machinery and equipment, to organize metrological support of technological processes; to do a feasibility study and make design decisions of the whole building site and coordinate work of every part of the project; to work out methods and software for calculation of design object, calculation provision of design and work documentation, to execute completed design works; to work out innovative materials, technologies, structures and systems including the use of the latest scientific achievements; to control compliance of developing projects and technical documentation with the design task, standards, technical conditions and other executive documents in the building industry.

**Organizational professional activities:** to organize and improve production process at the factory or manufacturing site and control maintenance of technological equipment and machinery; to organize debugging, testing and commission of facilities, samples of new and upgraded products produced by the enterprise; to give instructions as regards equipment operation and to verify the technical condition and residual life of building sites and equipment, to work out technical documentation for reparation; to work out documentation and organize the work related to control of quality processes at enterprises and working areas; to work out and organize environmental safety measures and control adherence to them.

**Management professional activities:** to plan design and organization activities; to monitor design and organization activities; to improve design and organization activities; to manage engineering procedure in accordance with job responsibilities,

to provide technical and ecological safety of production at the site of professional activities; to conduct supervision of implementation of the project.

**Employment possibilities:** Master of the specialty 192 "Building and Civil Engineering" can work for scientific production associations and organizations of any ownership engaged in building production: organization and management of the building processes; design of metal, ferroconcrete, masonry structures, bases and foundations as well as structural elements and facility on the whole; to make decisions on beautification, water supply and drainage systems, heat and gas supply and ventilation; to work out project documentation for building, exploitation and reconstruction of ground-based buildings and networks; to take the following positions at state and private secondary, specialized and higher educational institutions:

2142.1 - research engineers (other fields of engineering);

2310.2 – teacher at the higher educational institution;

2320 - teacher at professional educational institution;

1223 - chiefs of production units in the sphere of building;

1223.1 – professional chief executives of production units in building industry;

1223.2 - heads (other leaders) and wizards of units (sub-units) in building industry

Master can take the following primary positions:

Scientific and technician-and-engineer personnel at research academic and professional institutes and laboratories, research and design departments and factory laboratories, in scientific-production associations and at workplace:

junior researcher, engineer of II category, senior laboratory assistant, reviewer, manager or agent on implementation of new models of equipment, materials and technologies, teacher assistant.

**Access to further studies:** Master in the specialty 192 "Building and Civil Engineering" can continue its postgraduate studies in various building or technical directions to get Degree of Candidate of Technical Sciences.

**Graduation Department:** Department of Urban Building and Management;

**Institute / Faculty:** Institute of Transport and Logistics

**Head of educational program:** Associate Professor, Candidate of Technical Sciences Uvarov P.I, bud@snu.edu.ua; tel: 0666279753.