

Bachelor Program - Oil and Gas Engineering (21.03.01):

The field of the professional activity of the graduate is: oil and gas industry which includes transportation and storage of hydrocarbons.

Objects of the graduates' professional activity are:

- Engineering and technologies of pipeline oil and gas transportation, underground gas storage;
- Engineering and technology of oil, oil products and liquefied gas storage and marketing;
- Technological processes of oil and gas production;
- Equipment for pipeline oil and gas transportation, gas storage (including underground storage);
- Equipment for oil, oil products and gas (including liquefied gas) storage and marketing;
- Technical, technological and regulatory documentation.

The graduate can perform the following professional tasks:

- To conduct technological processes of operating and to carry out technological maintenance of equipment used in construction, maintenance, reconstruction and restoration of oil and gas wells on land and at sea;
- To conduct technological processes of oil and gas pipeline transportation, underground gas storage;
- To operate and to maintain technological equipment used for gas and oil pipeline transportation, underground gas storage;
- To conduct technical work according to technological regulations of drilling, exploration and development of gas and oil deposits, hydrocarbon transportation and storage;
- To process technical and technological documentation on operation of oil and gas equipment.

Master Program - Oil and Gas Engineering (21.04.01):

The field of the professional activity of the graduate is: research and development, methodology of engineering and designing, implementation and management of technological processes and productions in oil and gas industry which includes transportation and storage of hydrocarbons.

Objects of the graduates' professional activity are:

- Technological processes and facilities for pipeline oil and gas transportation, underground gas storage;
- Technological processes and facilities for oil, oil products and liquefied gas storage and marketing.

The graduate must perform the following professional tasks:

1. Scientific research activity:

- To conduct applied research on problems in oil and gas industry, to assess the possibility of implementation of scientific and technological progress achievements in oil and gas production;
- To initiate a creation, to develop and to conduct the experimental testing of innovative technologies of oil and gas production;
- To develop and to justify technical, technological, economical, psychosocial and other necessary indexes characterizing technological processes, objects, systems, projects, oil and gas organizations;
- To develop physical, mathematical and computer models of investigated processes, phenomena and objects, regarding professional sphere;

- To improve and to develop methods of information analysis of technological processes and functioning of technical devices used in pipeline oil and gas transportation, underground gas storage, oil, oil products and liquefied gas storage and marketing;
- To create and to improve modelling and calculation methods required for technological processes and technical devices design in the industry;
- To improve and to develop new methods of experimental research of physical processes in oil and gas production and technical devices;
- To conduct patent research with the view for ensuring patent clearance of new developments;
- To collect, process, analyse and systemize scientific and technical information according to the research topic, to choose research methods and task-solving means;
- To prepare scientific-technical reports, reviews, publications on results of the conducted research;
- To develop models of design solutions on quality management in oil and gas production;
- To develop systems for ensuring industrial and environmental safety of oil and gas industry facilities, equipment and technologies.

2. Project work:

- To improve the design methodology on the basis of modern achievements of information and communication technologies;
- To improve input and output data collection and presentation technology for the development of design documentation for pipeline oil and gas transportation, underground gas storage and oil, oil products and liquefied gas storage and marketing;
- With the help of applied software products to improve calculations on design of oil and gas industry processes and transportation;
- To develop design solutions on creation of technical devices and mechanisms, technological processes for oil and gas extraction and transportation;
- To prepare tasks aimed at development of design solutions for design objectives, defining patentability and technical level indicators of the designed equipment (products, facilities, structures) for transportation and storage of oil, gas and gas condensate;
- To make descriptions of devices and facilities operating principle and design with a justification of technical solutions;
- To develop concept, technical and working designs of complex devices and technological processes with the use of design automation tools, advanced experience of competitive products development;
- To develop design, technological and working documents according to specified requirements;
- To carry out technical calculations for projects, techno-economic and value engineering analysis of the efficiency of designed apparatuses, structures, technological processes;
- To develop new technologies for preventing complications and accidents in oil and gas production, environmental and subsoil protection;
- To develop design solutions on quality management in oil and gas production;
- To design systems for ensuring industrial and environmental safety of oil and gas industry facilities, equipment and technologies.