RUDN university

ACADEMY OF ENGINEERING

DESIGN, CONSTRUCTION AND OPERATION OF OIL AND OIL PRODUCTS TRANSPORTATION AND STORAGE SYSTEMS

MASTER'S PROGRAMME DEGREE

PROGRAM ADVANTAGES

- The program was developed and implemented jointly with Transneft AK, Transneft Research Institute LLC and is focused on the integration of education, science of innovation and business.
- Contracts with oil and gas and oilfield service companies – industry leaders – open up opportunities for students to gain competencies in the implementation of a wide range of real research and production projects during industrial and undergraduate practice.
- The possibility to construct individual educational trajectory by means of up to one quarter of specialized courses selection.
- Practical and scientific research work takes up to one fifth of the entire educational program. Students make full use of all the resources of the Department of Oil and Gas at the Academy of Engineering of RUDN University, as well as at partner companies.
- Highly paid creative work in leading oil and gas, oilfield services and research in Russian and worldwide companies, career opportunities and active participation in innovative projects, as well as continuing education in graduate and PhD programs with the defense of thesis.

STUDYING PROCCESS

120 credits.
Lectures, practical exercises and independent work, several types of practice.

TECHNOLOGICAL PROCESSES OF PIPELINE TRANSPORT

- Main gas pipeline.
- Reliability and durability of gas pipelines.
- Joint work of the gas pipeline and compressor station.
- The procedure for the issuance of tasks for the design, development and examination of project documentation for the construction, reconstruction and overhaul of main oil pipelines.
- Norms of designing oil pipelines.
- Norms of engineering design of oil pipelines.
- Oil pumping stations.

FUEL AND ENERGY COMPLEX OF RUSSIA: UNIFIED OIL SUPPLY SYSTEM OF RUSSIA

- Features of the economy of the oil and gas industry.
- The energy strategy of Russia, the interests of strategic energy cooperation.
- Decision making tools in the oil and gas industry.
- Forecasting in the fuel and energy complex.
- Organization of the production process at the enterprises of the fuel and energy complex.
- Planning and analysis of the activities of the enterprise of the fuel and energy complex.

FUNDAMENTALS OF PIPELINE TRANSPORT CONSTRUCTION AND OPERATION

- Design, welding and stability of offshore pipelines.
- Laying offshore pipelines.
- Moving a pipe-laying vessel under external load.
- Strength calculation of pipelines.
- Testing and operation of pipelines.

EQUIPMENT FOR TRANSPORT AND STORAGE OF OIL AND GAS

- Transport of oil and oil products.
- Hydraulic calculations of oil trunk pipelines.
- The main factors affecting the pumping of liquids.
- Pipe fittings.
- Pipe support.
- Calculation of vertical cylindrical tanks.
- Gas transport.

MANAGEMENT OF OIL AND GAS TRANSPORTATION SYSTEMS

- Types of transport systems.
- Mechanisms for managing transport systems, modes of transport.
- World experience in transport logistics support, modern ideas, technologies and principles of transport systems management.

HYDROCARBON PIPELINE TRANSPORT SYSTEMS, ETC.

- An idea of the pipeline transport of oil and oil products.
- Design documentation for the construction of a trunk oil pipeline.
- The choice of the route of the main oil pipeline.
- The main properties of oils and their preparation for pipeline transport.
- Operation of the linear part of the main oil pipeline.
- Automation systems and IT – control of the main oil pipeline.
- Special methods for pumping high-hardening and high-viscosity oils.
- Sequential pumping of oils.

STUDENTS FEEDBACK

MARIA PATKINA, RUSSIA

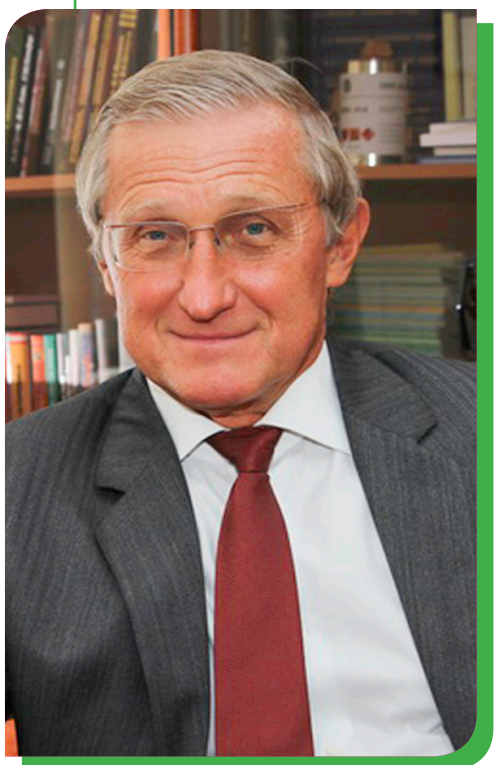
This master's program has expanded my knowledge in the oil and gas industry. The material is explained in an accessible way, thanks to the support of teachers it is easier to understand difficult moments. The program itself is filled with interesting and important disciplines. This knowledge is a good base for starting a career in the oil and gas industry. The knowledge gained is applicable not only to main pipelines, but also to oil refining.

ELIZAVETA SKVORTSOVA, RUSSIA

Training under the master's program has opened new horizons of knowledge. Very sensitive professional teachers worked with us. As part of doing my masters, I managed to participate in various conferences. The master's program provoked a desire to continue studying at the university - to do a PhD course. In general, the master's program is aimed at independent development, which is very important today.

HEAD OF THE PROGRAMME

VLADIMIR MIKHAILOVICH KAPUSTIN



Doctor of technical Sciences, Professor, honored scientist of the Russian Federation, two-time winner winner of the Russian Government prize in science and technology, winner of the academician I.M. Gubkin prize, two-time winner of the N.K. Baibakov public prize, winner of the A.N. Kosygin prize of the Russian Union of commodity producers, honorary worker of higher professional education of the Russian Federation, honorary Petrochemist, honorary worker of the fuel and energy sector.

A member of two dissertation councils, a member of the editorial boards of several scientific journals, member of the Presidium of the Russian National Committee of World Petroleum Council, member of the Presidium of the Association of refiners and Petro chemists of Russia, member of the interdepartmental expert Council on the development of chemical and petrochemical industry under the Ministry of industry and trade and the Ministry of energy of Russia, member of the STC for oil and gas equipment in the Ministry of industry and trade, Academy of natural Sciences.

Topic of the doctoral dissertation: “Regulation of phase transitions in catalytic processes of raw material processing”.

FIELD OF SCIENTIFIC INTERESTS:

a prominent scientist in the field of chemistry of oil disperse systems. The main provisions of the technology of controlled phase transitions in oil refining processes are reflected in the textbook “technology of oil refining in 4 volumes”, for which Kapustin V.M. and co-authors received the Russian Government Award in the field of education in 2018.

As a result of research, the Professor published more than 375 scientific papers, including 7 monographs, 14 textbooks and manuals, 86 author’s certificates and patents. He prepared 21 candidates of science, was a scientific consultant for 2 doctoral dissertations.