

Profile of the educational program

General information	
The official name of the educational program	Oil and gas engineering and technology
Specialty	185 Oil and gas engineering and technology
Branch of knowledge	18 Production and technology
Higher education degree and title of qualification in the original language	Master's degree, master's degree in oil and gas engineering and technology
Type of diploma and scope of educational program	Master's degree, single, 90 ECTS credits, term of study 1 year 4 months full-time, 1 year 10 months by correspondence
Availability of accreditation	Not accredited (introduced in 2020)
Cycle / level	The second (master's) level, NQF of Ukraine – 8 level, FQ-EHEA – the second cycle, EQF-LLL – 7 level
Requirements for the level of education of the entrant	availability of a bachelor's degree, specialist, general rules on prerequisites for entry
Language (s) of instruction	Ukrainian
Term of the educational program	5 years
Internet address of the permanent placement of the description of the educational program	https://egts.kname.edu.ua/
The purpose of the educational program	
Acquisition of professional knowledge and skills to solve problems that arise in the process of organization and implementation of crude oil, natural and associated petroleum gas and condensate, their preparation for transportation and storage, which provides certain employment and opportunities for further education and career growth	
Characteristics of the educational program	
Subject area	<p>Objects of study and professional activity: technologies, equipment and facilities for production, transportation and storage of hydrocarbons.</p> <p>Learning objectives: training of specialists in the development of oil and gas fields and transportation of hydrocarbons, development and implementation of technologies for drilling wells, extraction, industrial collection and preparation of hydrocarbons, transportation and storage of oil and gas.</p> <p>Theoretical content of the subject area: in-depth, fundamental knowledge of oil and gas mechanics, underground hydrogas dynamics, pipeline hydraulics, thermodynamics, materials science, information technology, theoretical foundations of basic oil and gas technologies.</p> <p>Methods, techniques and technologies: methods of physical and mathematical modeling of thermodynamics and hydrogas dynamics of formation, well and pipeline communications; technologies of drilling wells, development of oil and gas fields, extraction, industrial preparation,</p>

	transportation and storage of oil and gas. Tools and equipment: oilfield equipment, equipment, machinery, control and measuring devices required for technological processes of drilling, production, industrial preparation, transportation and storage of oil and gas.
Orientation of the educational program	Educational and professional
The main focus of the educational program and specialization	<i>Special education</i> in the field of production and technology, <i>specialties</i> oil and gas engineering and technology <i>Key words:</i> oil, natural gas, fluid, field, deposit, well, production technology, collection and preparation of products, main gas transport, gas pipelines, oil pipelines, gas storage facilities, oil and oil products warehouses.
Features of the program	The educational program provides the acquisition of theoretical knowledge and practical skills in oil and gas engineering and technology with a focus on oil and gas production technologies including exploration, industrial work, drilling, economic analysis and determination of reserves and others.
Suitability of graduates for employment and further study	
Suitability for employment	The generalized object of the master's activity is engineering and technical management at the middle and higher levels of enterprises and organizations, scientific institutions and educational institutions. According to the Classifier of professions DK 003: 2010, the specialist must be prepared for the following professions: 2147 professionals in the field of mining and metallurgy 2147.1 researcher (mining, metallurgy) 2147.2 engineer for oil and gas production 2147.2 mining engineers and metallurgical engineers 2147.2 well fastening engineer 2147.2 reservoir pressure maintenance engineer 2147.2 complex engineer in drilling (overhaul) of wells 2147.2 well filling engineer 2147.2 engineer for operation of gas facilities equipment 2147.2 engineer for preparation and transportation of oil 2149 professionals in other fields of engineering 2149.1 researcher (branch of engineering) 2149.1 research engineer 2149.2 gas transportation manager 2149.2 engineer for operation of buildings and equipment gas compressor station 2149.2 systems management and maintenance engineer 2149.2 operation and repair engineer 2149.2 gas preparation engineer for transportation 2149.2 engineer of calculations and modes
Further training	Opportunity to study according to the program of the third (educational-scientific) level of higher education and acquisition of additional qualifications in the system of adult education
Teaching and assessment	
Teaching and learning	Student-centered learning, problem-oriented learning, lectures, practical classes, laboratory work, independent work, consultations, project work, preparation of qualifying work. Teaching methods: problem-solving, illustrations and demonstrations, part-search, research, practical
Evaluation	Types of control: current, modular, final. Forms of control: oral and written questioning, including exams; test tasks, including computer testing in the Moodle system; laboratory reports; presentations; protection

	of term papers and projects, reports on practices; Certification: public defense of qualification work.
Program competencies	
Integral competence	Ability to solve complex problems and problems in professional activities related to the oil and gas industry, or in the learning process, which involves the application of research and innovation and is characterized by uncertainty of conditions and requirements.
General competencies (GK)	<p>GK1. Ability to abstract thinking, analysis and synthesis.</p> <p>GK2. Knowledge and understanding of the subject area, understanding of the tasks of professional activity in the field of energy security of Ukraine.</p> <p>GK3. Ability to communicate with specialists and experts of different levels of other fields of knowledge.</p> <p>GK4. Ability to apply knowledge in practical situations.</p> <p>GK5. Ability to make informed decisions.</p> <p>GK6. Ability to carry out safe activities.</p>
Professional competencies of the specialty (PC)	<p>PK 1. Ability to solve complex problems and problems that require updating and integration of fundamental and general engineering knowledge, often in conditions of insufficient information and conflicting requirements.</p> <p>PC2. Ability to search, process and analyze information from various sources using modern information and communication technologies.</p> <p>PC3. Ability to develop and operate systems of integrated, including automated, control of oil and gas systems.</p> <p>PC4. Ability to develop completed gas and oil distribution schemes in order to organize the full technological cycle from the extraction of oil and gas products to its consumption.</p> <p>PC5. Ability to conduct technological and technical and economic evaluation of the effectiveness of advanced oil and gas technologies and new technical devices.</p> <p>PC6. Ability to plan and organize the work of the oil and gas company in accordance with the requirements of life safety and labor protection.</p> <p>PC7. Ability to use a foreign language to carry out scientific and technical activities.</p> <p>PC8. Ability to develop and manage projects.</p> <p>PC9. Understanding the need to comply with copyright and related intellectual property rights; perception of state and international systems of legal protection of intellectual property.</p> <p>PC10. Ability to develop and implement innovative products and measures to improve the technical level of systems and technologies in the oil and gas industry.</p> <p>PC11. Ability to create new systems and technologies for drilling, operation, research and restoration and repair of wells.</p> <p>PC12. Ability to solve complex engineering problems in the field of design, construction, maintenance and repair of oil and gas facilities.</p> <p>PC13. Ability to perform a full range of operations for diagnosis, assessment, quality of operation and repair of elements of oil and gas systems.</p> <p>PC14. Ability to master the basics of engineering approaches to the design and operation of transport, storage and distribution of oil, petroleum products and hydrocarbons.</p> <p>PC15. Ability to apply modern mathematical methods for digital modeling of technological parameters of advanced technologies of oil and gas production.</p>

	PC16. Ability to use modern software for scientific, innovative, design and operational activities in the field of systems and technologies of the oil and gas industry.
Program learning results	
Program learning results , defined by the required component	<p>PLR1. Demonstrate the ability to think abstractly, perform system analysis and synthesis of technical systems in the extraction, transportation and storage of oil and gas.</p> <p>PLR2. Understand and analyze the scientific and technical goals of the oil and gas industry, ways to achieve them and the role in ensuring energy security of Ukraine.</p> <p>PLR3. Communicate freely orally and in writing on professional matters, including knowledge of special terminology, both with specialists and with experts in other fields of knowledge.</p> <p>PLR4. Demonstrate the perfect use of information, communication and digital technologies to solve innovative problems in the field of extraction, transportation and storage of oil and gas.</p> <p>PLR5. Apply the methods of basic and general engineering sciences to solve complex specialized problems of the oil and gas industry, understand the scientific principles and theories on which they are based, their areas of application and limitations.</p> <p>PLR6. Design systems for integrated management of oil and gas systems, assess their technological excellence and impact on the environment and man.</p> <p>PLR7. Demonstrate skills in solving problems of automation of technological processes of construction, maintenance of oil and gas production, transportation and storage facilities.</p> <p>PLR8. Demonstrate the ability to organize the operation of gas and oil distribution schemes in order to organize the supply cycle from oil and gas production to its consumption.</p> <p>PLR9. Demonstrate skills of technological and technical and economic evaluation of the efficiency of the use of advanced oil and gas technologies and new technical devices.</p> <p>PLR10. Demonstrate the ability to plan and organize the work of the oil and gas company in accordance with the requirements of life safety and labor protection.</p> <p>PLR11. Demonstrate the ability to communicate in a foreign language, including knowledge of special terminology and skills in working with foreign technical publications.</p> <p>PLR12. Demonstrate the ability to develop and manage projects.</p> <p>PLR13. Adhere to the rules of copyright and related intellectual property rights; perception of state and international systems of legal protection of intellectual property.</p> <p>PLR14. Demonstrate the ability to apply a scientific approach to the formation and justification of effective technologies for drilling, operation, research and restoration and repair of wells.</p> <p>PLR15. Demonstrate skills in organizing technological processes and assessing the quality of construction, maintenance and repair of pumping and compressor stations.</p> <p>PLR16. Perform comprehensive engineering work to assess the condition of the elements of oil and gas facilities by means of technical diagnostics and conduct a full range of operations for their operation and repair.</p> <p>PLR17. Demonstrate the ability to use modern design and technological solutions for development and design, as well as skills to assess the quality of technical operation of oil and gas equipment.</p>

	<p>PLR18. Solve problems in the design and operation of transport, storage and distribution of oil, petroleum products and hydrocarbons.</p> <p>PLR19. Demonstrate the ability to effectively apply modern digital methods for modeling technological processes at oil, gas and gas condensate fields.</p> <p>PLR20. Demonstrate the ability to calculate the technological parameters of processes and operations using software packages used in the oil and gas industry.</p>
Resource support for program implementation	
Staffing	<p>The quality level of the program is provided by a qualified scientific and pedagogical staff, which includes doctors and candidates of science, professors, associate professors, including certificates of English language proficiency at the B-2 level.</p> <p>All scientific and pedagogical workers have qualifications according to educational components, experience of practical and scientific and pedagogical activities, regularly improve their skills through participation in scientific conferences, internships at leading enterprises and institutions of the industry.</p>
Logistics	<p>Logistics of the educational program meets the requirements and provides an opportunity for effective training of applicants. The educational process uses specialized laboratories equipped with multimedia installations, models, models, laboratory equipment for laboratory work on the extraction and preparation and transportation of oil and natural gas. Specialized computer labs have modern equipment and general-purpose software and application software CardGio Inc., the ability to access the Internet.</p>
Information and educational and methodical support	<p>Educational components are provided with teaching materials posted in the relevant courses on the distance learning platform Moodle https://dl.kname.edu.ua/. Applicants have free access to modern professional literature and periodicals, Scopus and Web of Science databases, Springer resources, ScienceDirect database from Elsevier publishing house, scientific library http://library.kname.edu.ua/index.php/uk/ , electronic repository http://eprints.kname.edu.ua.</p>
Academic mobility	
National credit mobility	<p>According to the Regulations on academic mobility of students, graduate students, doctoral students, scientific, pedagogical and research staff of O.M.Beketov National University of Urban Economy in Kharkiv.</p>
International credit mobility	<p>Opportunity to participate in international credit mobility programs under the agreements on international academic mobility of O.M.Beketov National University of Urban Economy in Kharkiv.</p>
Training of foreign applicants for higher education	<p>According to the Rules of admission to O.M.Beketov National University of Urban Economy in Kharkiv.</p>