

Profile of the Educational Program

1– General information	
Full name of the institution of higher education	O.M. Beketov National University of Urban Economy in Kharkiv
Degree of higher education and title of qualification in the original language	Master's degree in Chemical Technology and Engineering
The official name of the educational program	Chemical Technology and Engineering
Type of diploma and scope of the educational program	Master's Diploma, single, 90 ECTS credits, term of study 1 year 4 months
Accreditation availability	Not accredited (introduced in 2019)
Cycle / level	Second (master's) level NQF of Ukraine - level 7 FQ-EHEA - Second cycle EQF-LLL –7 level
Requirements for the level of education of the entrant	The first (bachelor) level, educational qualification level specialist
Language (s) of teaching	Ukrainian
Duration of the educational program	5 years
Internet address of the permanent placement of the description of the educational program	https://chem.kname.edu.ua/index.php/uk/osvitno-profesiina-prohrama-khimichni-tekhnologii-ta-inzheneriia
2– Purpose of the educational program	
Training of specialists who are able to develop, adjust and optimize technologies of chemical substances and materials production depending on the field of application, capable to investigate their properties, introduce and analyze methods of synthesis, control of technological processes of chemical technology and engineering.	
3 – Characteristics of the educational program	
Subject area	<p>The objects of study and activity – technological processes and devices of modern chemical industries.</p> <p>The objectives of the training are to train specialists who are able to solve complex problems and problems of chemical technologies and engineering, which involves research and / or innovation and is characterized by the uncertainty of conditions and requirements.</p> <p>The theoretical content of the subject area – concepts, categories, concepts, principles of chemical technologies, processes and devices of chemical production.</p> <p>Methods, techniques and technologies: technologies of the chemical industry, physicochemical research methods, methods of modeling, optimization, decision-making and design of chemical processes and apparatus, methods of planning and processing experimental results,</p>

	<p>methods and technologies of organizational and technological support and economic analysis of chemical production, teaching methods in higher education.</p> <p>Instruments and equipment: devices and instruments for the analysis of raw materials, intermediate and target products, control and measuring equipment, modern digital technologies, specialized technological and scientific equipment, specialized software.</p>
Orientation of the educational program	Educational and professional
Main focus of the educational program and specialization	<p>General education in the field of chemistry and chemical technology, specialty 161 Chemical technology and engineering</p> <p><i>Keywords:</i></p> <p>Chemical technology, chemical and bioengineering, physicochemical and physic-technical research methods, composite materials, paints, ceramic and glass materials, nanocomposites, fillers, pigments, additives, oligomers, coatings, ceramic firing, design of composite, ceramic and glass materials</p>
Features of the program	no
4 – Suitability of graduates to employment and further education	
Suitability for employment	<p>Graduate Career Opportunities (according to the Classifier of Occupations DK 003: 2010):</p> <p>2113.1 - Research assistants (chemistry)</p> <ul style="list-style-type: none"> – Junior Researcher (Chemistry) <p>2113.2 - Chemists</p> <ul style="list-style-type: none"> – Chemist – Chemical analyst <p>2146.1 - Research assistants (chemical technologies)</p> <ul style="list-style-type: none"> – Junior Researcher (Chemical Technology) <p>2146.2 - Chemical engineers</p> <ul style="list-style-type: none"> – Engineer (chemical technology) – Engineer-technologist (chemical technologies) <p>2149.2 - Engineers (other engineering)</p> <ul style="list-style-type: none"> – Engineer in patent and inventive – Engineer for the introduction of new technology and technology <p>Is a standardization and quality engineer</p> <ul style="list-style-type: none"> – Research Engineer – Engineer-technologist. <p>Employment at enterprises, public institutions and private companies, research institutions of chemical, construction, pharmaceutical, machine-building industries.</p>
Further education	Continuation of education at the third level of higher education. Acquisition of additional qualifications in the system of adult education.
5 – Teaching and assessment	
Teaching and learning	Teaching and learning includes lectures and practical classes, self-study, individual consultations with teachers, practice and implementation of a master's qualification project on the use of modern educational pedagogical technologies, problem-oriented learning, student-centered education.
Assessment	Oral and written examination, current and final knowledge control, test assignments, graphic works, coursework and projects, practice reports, oral and written examinations, differentiated tests, defense of qualification work (Master's degree).

6 – Program competencies	
Integral competence	The ability to solve complex problems and problems in chemical technology and engineering or in the learning process involves research and / or innovation and is characterized by uncertainty of conditions and requirements.
General Competences (GC) , defined by the standard of higher education specialty	GC-1 Ability to generate new ideas (creativity). GC-2 Ability to apply knowledge in practical situations. GC-3 Ability to search, process and analyze information from various sources.
Professional competencies of the specialty (PC)	PC-1 Ability to research, classify and analyze indicators of quality of chemical products, technological processes and equipment of chemical production. PC-2 Ability to organize and manage chemical-technological processes in the conditions of industrial production and in research laboratories taking into account social, economic and ecological aspects. PC-3 Ability to use the results of research and development to improve existing and / or develop new technologies and equipment for chemical production. PC-4 Ability to use modern special scientific equipment and software in conducting experimental research and implementation of research and development in the field of chemical technology and engineering.
7 – Program learning outcomes	
Program learning outcomes , defined by the standard of higher education specialty	<p>PLO-1 Critically comprehend scientific concepts and modern theories of chemical processes and chemical engineering, apply them in research and innovation.</p> <p>PLO-2 To search for the necessary information on chemical technology, processes and equipment for the production of chemicals and materials based on them, to systematize, analyze and evaluate relevant information.</p> <p>PLO-3 To organize the work and work of collective in the conditions of industrial production, design divisions, research laboratories, to define the purposes and effective ways of their achievement, to motivate and train the personnel.</p> <p>PLO-4 Evaluate technical and economic characteristics of research results, research and development, technologies and equipment of chemical production.</p> <p>PLO-5 Fluently communicate in state and foreign languages orally and in writing to discuss and present the results of professional activities, research and projects.</p> <p>PLO-6 Develop and implement projects in the field of chemical technology and related interdisciplinary projects, taking into account social, economic, environmental and legal aspects.</p> <p>PLO-7 Carry out in the scientific and technical literature, patents, databases, other sources search for the necessary information on chemical technology, processes and equipment for the production of chemicals and materials based on them, systematize and analyze and evaluate relevant information.</p>
8 – Resources for program implementation	
Staff assistance	The qualitative level of professional training of masters is ensured by the qualified scientific and pedagogical staff of the department, which includes doctors and candidates of sciences, professors, associate professors, member of the European Federation of Chemical Engineering CFE-UA. All teachers of the department have a strong practical experience in the field of chemical technology.
Material and technical support	The educational process is fully provided with the auditorium fund, administrative and auxiliary facilities. Classes in the curriculum for bachelors are held in 9 classrooms, 4 of

	<p>which are equipped with stationary multimedia equipment, in the laboratory of varnishes, paints and paints PVC-Lab for research according to European standards, 3 laboratories of the regional center of ceramics "CENTRE CERAMIC LABORATORY" 2 specialized computer laboratories.</p> <p>The educational process in all disciplines is provided with visual aids (presentations to lecture material, posters, diagrams, tables, models, samples, collections, etc.), the necessary technical and technological equipment.</p>
Information and educational and methodical support	<p>All educational components of the educational program Design are provided with the following educational and methodological materials: textbooks; tutorials; lecture notes; methodical instructions and recommendations; individual tasks; collections of situational tasks (cases); Examples of solving typical tasks or completing typical tasks computer presentations; illustrative materials; resource directories and more.</p> <p>All teaching materials are available to students in the reading rooms of the Scientific Library http://library.kname.edu.ua/index.php/en/, including in the Information Room equipped with computers with Internet access and the University's local network, in the digital repository http://eprints.kname.edu.ua, on the portal of the Distance Learning Center http://cdo.kname.edu.ua/</p>
9 – Academic mobility	
National Credit Mobility	In accordance with the Regulations on Academic Mobility of Students, Graduate Students, Doctoral Students, Scientific-Pedagogical and Scientific Workers of O.M. Beketov NUUE
International Credit Mobility	<ol style="list-style-type: none"> 1) Middle East Technical University, Ankara, Turkey (METU) 2) Aristotle University, Thessaloniki, Greece 3) University of Nova Gorica, Slovenia 4) Estonian University of Natural Sciences, Tartu, Estonia 5) Lodz Technical University, Lodz, Poland
Training of foreign higher education applicants	In accordance with the Rules for admission to training before O.M. Beketov NUUE