

Code and title of specialty (direction): 161 “Chemical technology and Engineering”

Title of specialization: Chemical technologies of inorganic substances

Code and title of the field of knowledge: 16 “Chemical and bioengineering”

Qualification: *master of chemical technology and engineering, specialization Chemical technologies of inorganic substances*

Number of credits: 90 ECTS credits

Grade of higher education: the second (Master), corresponds to the seventh qualification level of Ukrainian National Framework of Qualifications.

Requirements to the previous education grade: a person has the right to acquire a Master's degree in case of possession of a Bachelor's or Specialist's degree in the appropriate specialty (direction). Provided that the previous degree was obtained in another country, it requires nostrification.

Qualification requirements: the higher education document is issued to a person who had successfully completed the educational program and was certified. Form of attestation – public defense of a Master's thesis.

Program study results: to solve complicated tasks and problems in a certain professional activity field or in the learning process that involves researches conducting and / or innovations implementation; to use specialized conceptual knowledge at the level of the latest achievements, in particular in the context of research work; critically understand learning problems and / or professional activities; to implement research and / or innovation activities; clearly and unambiguously to communicate their own conclusions, as well as knowledge and explanations justifying them; to use a foreign language in professional activities; to make decisions in complicated and unpredictable conditions requiring new approaches and forecasting; to be responsible for an assessment of the team's strategic development. Technological professional activity: to use the laws of thermodynamics, kinetics and mechanisms of inorganic reactions, of equilibrium in solutions, melts and solids during the scientific research course performing; to investigate the physicochemical factors influence on the properties of the object of research or design; to use modern information and communication technologies for searching, calculations, creation of graphic documents, for mathematical analysis and statistical processing in research and designing; to substantiate the choice of technical and technological means for realization of the industrial process of inorganic substances production; to find engineering solutions for the low-waste resource-saving technologies creation with the requirements of state standards and norms observance; to recommend a substantiated technological scheme of production; to calculate optimal variants of technological, material, energy-thermal and other production streams; to analyze the parameters of the main technological equipment for optimum choice; to choose the main and auxiliary equipment for the technological process implementation; to determine the data of physico-mechanical and technological characteristics of the design object for the development of technological regulations; to be able to design technological line for the technological process implementation. Organizational professional activities: to carry out technical support of the activity objects existence stages of the Chemical Technology and Engineering Master, specializing in "Chemical technologies of inorganic substances"; to monitor the technical level of inorganic substances production; to organize scientific and cognitive activity. Management professional activity: to classify and analyze problems of different nature and to draw up a strategic plan for their solution; to evaluate and explain the risks related to the use of chemicals; to develop safety measures in production with their further realization.

Employment competences: Master of specialty 161 "Chemical technology and Engineering", specialization *Chemical technology of inorganic substances* may hold positions in universities, colleges, specialized schools, technical schools; scientific positions in the field of production, design and research: chemical and scientific-production enterprises, state institutions, engineering companies, design and research institutes, counseling.

Further study perspective: Has the right to higher education at the third (educational and scientific) level - doctoral programs in inorganic substances technology.

Department graduating a student with degree: department of chemical engineering and ecology

Institute / Faculty: faculty of engineering

Educational program supervisor: Associate Professor, PhD, Associate Professor of the department of chemical engineering and ecology Kravchenko I.V., xi@snu.edu.ua; tel. 0645228982