

Code and title of specialty (direction): 105 "Applied Physics and Nanomaterials"

Title of specialization:

Code and title of the field of knowledge: 10 "Natural Sciences"

Qualification: Master of Physics

Number of credits: 120 ECTS credits

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

Requirements to the previous education grade: a person has the right to obtain a Master's degree in case of possession of Bachelor's Degree on same specialty. 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. The final attestation is carried out on the basis of evaluation of the degree of development of competences. Form of attestation – defence of a Master's thesis.

Program study results: use conceptual knowledge, including knowledge of the latest advances in professional activities; conduct research and implement innovations in particular professional activities or in the learning process, characterized by uncertain conditions and requirements in education; interpret information, choose methods and tools to solve professional problems; apply innovative approaches and forecasting; communicate to specialists and non-specialists concerning information, ideas, problems, own findings and knowledge and explanations in professional activities; to form a communication strategy; be responsible for decision-making in unforeseen circumstances, which calls for the use of new methods and forecasting, communicate in a foreign language on a professional level; to possess knowledge of methods of teaching in higher education establishments based on Bologna process standards; be responsible for the professional development of individuals and / or groups; study with high autonomy and independence.

Teaching Career: to possess the knowledge of methods of teaching in higher education establishments based on the Bologna process standards; plan and implement the educational process in universities with modern teaching systems.

Research professional activities: conduct research; use mathematical tools for theoretical analysis; use mathematical tools for theoretical analysis of researched characteristics, devise a mathematical model of the process or a system; define the necessary equipment for experimental work; conduct experimental data processing using modern integrated methods.

Technological professional activities: design parts of physical devices and physical laboratories, introduce physical devices in the field of professional activity; ensure the efficiency and safety of components of physical devices and physics laboratories according to the rules of operation.

Organizational professional activities: technical support on all stages of objects of Master's in Physics activities; provide legal and technical operation of physical devices and monitor their use in laboratories of physics.

Management professional activities: planning of components of technological and organizational activity, monitoring components of technological and organizational performance, improve components of technological and organizational activity.

Employment competences: Master of specialty 105 "Applied Physics and Nanomaterials" may hold positions in companies, small businesses and institutions: engineer-physicist; teacher of physics in vocational training schools and higher education establishments.

Further study perspective: Master of specialty 105 "Applied Physics and Nanomaterials" can continue training for a Candidate degree in physics and other technical directions in order to receive a degree of Candidate of Physical and Mathematical Sciences or Candidate of Technical Sciences.

Department graduating a student with degree: Department of Applied Physics.

Institute / Faculty: Institute of Transport and Logistics

Educational program supervisor: Associate Professor, Ph. D. in Science, Khoroshun Anna Mikolaivna, an_khor@i.ua; Mob. n. 066 171 9306