

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
TERNOPIL VOLODYMYR HNATIUK NATIONAL PEDAGOGICAL
UNIVERSITY**

APPROVED

academic council of the university
protocol no. 13 of June 28, 2022,
put into effect by order of the rector
no. 127 dated June 28, 2022



Rector

Bohdan BUYAK

**EDUCATIONAL AND SCIENTIFIC PROGRAM
«PROFESSIONAL EDUCATION»
third (educational and scientific)
level of higher education
by specialty 015 Vocational education (by specializations)
fields of knowledge 01 Education/Pedagogy**

Level of education	the third (educational and scientific)
The degree of higher education	Doctor of Philosophy
Field of study	01 Education/Pedagogy
Program Subject Area	015 Professional education (by specialization)

Ternopil, 2023

LETTER OF AGREEMENT

EDUCATIONAL AND SCIENTIFIC PROGRAMS OF HIGHER EDUCATION

Field of study	01 Education/Pedagogy
Program Subject Area	015 Vocational education (by specialization)
Subject specialization	–
Second Subject Area (subject specialization)	–
Specialization	–
Level of higher education	Third (educational and scientific)
Degree	Doctor of Philosophy (PhD)
Qualification	Doctor of Philosophy (PhD) in professional education

AGREED

Chairman of the scientific and methodical
Council Ternopil Volodymyr Hnatiuk
National Pedagogical University



[Signature]
Hryhoriy TERESHCHUK

June 15, 2022

DESIGNED AND RECOMMENDED
by the ONP project group
«Professional education»
Ternopil Volodymyr Hnatiuk National
Pedagogical University
Head of the project group
(guarantor of the educational program)

[Signature]
June 15, 2022

Roman HORBATYUK

I. PREFACE

Developed by the project group consisting of::

Horbatiuk Roman Mykhailovych, Doctor of Pedagogical Sciences, Professor, Professor of the Department of Mechanical Engineering and Transport of Ternopil Volodymyr Hnatiuk National Pedagogical University – **guarantor**.

Halyna Mykhaylivna Meshko, Doctor of Pedagogical Sciences, Professor, Head of the Department of Pedagogy and Educational Management of Ternopil Volodymyr Hnatiuk National Pedagogical University;

Vira Arkadiivna Polishchuk, Doctor of Pedagogical Sciences, Professor, Head of the Department of Social Pedagogy and Social Work of Ternopil Volodymyr Hnatiuk National Pedagogical University;

Nataliya Mykolaivna Bilan, graduate of the third (educational and scientific) level of higher education, 4th-year graduate student of the Department of Mechanical Engineering and Transport of Ternopil National Pedagogical University named after Volodymyr Hnatyuk.

External stakeholders:

Volodymyr Ihorovych Tsyok, director of the state educational institution «Ternopil Center of Vocational and Technical Education»;

Vasyl Mykolayovych Mulyarchuk, director of Ternopilskyi cooperative professional college.

Reviewers:

Iryna Ivanivna Dobroskok – Doctor of Pedagogical Sciences, Professor, Corresponding Member of the National Academy of Sciences of Ukraine, Head of the Department of Professional Education of the Hryhorii Skovoroda University in Pereiaslav

Inna Mykhaylivna Shorobura – Doctor of Pedagogical Sciences, Professor, Rector of the Khmelnytskyi Humanitarian and Pedagogical Academy

1. Profile of the educational and scientific program «Professional Education»

1.1. General information

Full name of the higher education institution and structural unit	Ternopil Volodymyr Hnatiuk National Pedagogical University, Department of Mechanical Engineering and Transport
Degree of higher education and title of qualification	Third (educational and scientific) level of higher education, doctor of philosophy (PhD) in professional education
The official name of the educational program	«Professional education»
Type of diploma and scope of the educational program	Diploma of Doctor of Philosophy (PhD), single, 60 ECTS credits, study period 4 years
Availability of accreditation	–
Cycle / level	FQ-EHEA – third cycle, EQF-LLL – 8th level / NRK – 9th level
Prerequisites	Possession of a master's degree or specialist educational qualification
Program Subject Area	015 Professional education
Language(s) of instruction	Ukrainian
Internet address of the permanent placement of the description of the educational program	http://tnpu.edu.ua/about/public_inform/ak_redytatsiia%20ta%20litsenzuvannia/osvitni_prohramy/PhD/osvitnjo-naukovi-programy.php

1.2. The purpose of the educational program

To form in the recipient of the degree of Doctor of Philosophy the competencies that enable solving complex problems in the field of education (professional education) based on a deep rethinking of existing and creation of new integral knowledge and/or professional practice; to carry out independent research, scientific-organizational, pedagogical-organizational and practical activities in institutions of higher, professional

(professional-technical) education and scientific-research institutions; to prepare own research in the field of professional education, the results of which have scientific novelty, practical significance, with its public protection.

1.3. Characteristics of the educational program

Subject area

General level:

- substantiation of theoretical foundations and improvement of existing educational technologies, which makes it possible to improve the quality of an individual's knowledge at a higher theoretical and methodological level;
- identification of regularities, substantiation of methodological approaches and principles of organization of the educational process in educational institutions;
- scientific substantiation of the content, methods, organizational forms and means of professional education;
- research and development of standards in professional education;
- scientific substantiation of the problems of the modern textbook for professional education;
- study of continuity of education in professional education institutions;
- study, generalization of advanced pedagogical experience in professional training of adults and unemployed population;
- research of innovative processes in professional education;
- development of pedagogical principles of professional and creative development of the individual in the system of continuous professional education;
- substantiation of the foundations of the formation of pedagogical skills of scientific and pedagogical and pedagogical workers;
- development and substantiation of the scientific research component of the training of specialists for the purposeful formation of research competence of students of higher education;
- organization of educational and industrial, industrial and educational practices in educational institutions;
- scientific foundations of training and retraining of specialists in the distance education system;
- by the level of organization of the pedagogical process - vocational and technical education, higher education, postgraduate education, distance education, self-education, adult education, vocational training on the job;
- by types of objects of pedagogical influence – students of vocational and technical education institutions, students (cadets) of higher education institutions of all specialties, pedagogical, scientific and pedagogical workers; students of the postgraduate

	<p>professional education system; listeners of employment centers and training units at the workplace;</p> <ul style="list-style-type: none"> – according to the structural component of pedagogical science – history and theory of professional education, partial didactics; – by branch component of pedagogical science (by branch of specialist training) – all types of branches of knowledge; – according to the psychophysical condition of subjects of education – subjects of education in the norm, subjects of education with special needs.
Academic rights of graduates	A doctor of philosophy can continue his education at the scientific level of a doctor of sciences, acquire any other forms of education, improve his qualifications, and engage in self-education.
Orientation of the educational program	Educational and scientific
The main focus of the program	<p><i>General:</i></p> <ul style="list-style-type: none"> – substantiation of theoretical foundations and improvement of existing educational technologies, which makes it possible to improve the quality of an individual's knowledge at a higher theoretical and methodological level; – scientific substantiation of the content, forms, methods, and means of professional education; – scientific substantiation of the problems of modern professional education; – study of continuity in educational institutions; – study, generalization and implementation of advanced pedagogical experience in educational institutions; – substantiation of the foundations of the formation of pedagogical skills of scientific and pedagogical workers; – organization of various types of practices (introduction to the profession, educational, pedagogical, industrial, pre-diploma) in educational institutions. <p><i>Special:</i></p> <ul style="list-style-type: none"> – research of innovative processes in professional education; – development of new and improvement of existing learning technologies to improve the quality of the educational process; – development of pedagogical principles of professional and creative development of personality in the system of professional education; – development and substantiation of the scientific research component of specialist training for the purposeful formation of students' research competence;

	<p>– substantiation of the scientific basis of training and retraining of specialists in the distance education system.</p>
<p>Features of the program</p>	<p>A feature of the program is the combination of teacher-scientist training, professional education specialist and praxeological training taking into account regional characteristics (participation in scientific centers, the Club of Successful People, regional and local events, etc.).</p> <p>The program is implemented in Ukrainian, or its individual parts may be taught in foreign languages. Provides for the possibility of maintaining the academic mobility program thanks to distance education.</p> <p>The educational component of the program is implemented over the course of four semesters, with a duration of 60 credits, and includes disciplines in the appropriate cycles that provide: language competencies; general training; knowledge of the chosen specialty; disciplines of the free choice of the student of higher education.</p> <p>The program is implemented in small groups of researchers and provides a differentiated approach to applicants of full-time, part-time and evening forms of education.</p> <p>The program provides 31 ECTS credits for compulsory academic disciplines and 9 credits of scientific, pedagogical practice, of which 19 ECTS credits are general training disciplines (organization of scientific activity, philosophy: historical-philosophical and modern semantic parameters of knowledge, academic and professionally oriented communication) which involves the acquisition of general scientific (philosophical) competences, language competences, and universal researcher skills by the graduate student (acquirer). Another 32 ECTS credits are provided for professional training disciplines, of which 20 ECTS credits are for elective disciplines within the educational and scientific program.</p> <p>The scientific component of the program. The scientific component of the educational-scientific program involves carrying out own scientific research under the guidance of one or two scientific supervisors with the appropriate presentation of the obtained results in the form of a qualifying scientific work. This program component is not measured by ECTS credits, but is drawn up separately in the form of an individual plan of the graduate student's (recipient's) scientific work and is a component of the curriculum.</p> <p>The peculiarity of the scientific component of the educational-scientific program for the training of doctors of philosophy in the specialty 015 Professional education is that graduate students will be able to perform individual components of their own scientific research during practical and seminar classes in the academic discipline of professional training.</p>

1.4. Graduates' suitability for employment and further education	
Suitability for employment	<p>Research and teaching activities in the field of education. Administrative and management activities in the field of education. Positions according to the classification of professions of Ukraine DK 003:2010. Heads of enterprises, institutions and organizations (12), director (head) of an organization (research, design, project) (1210.1), director (head) of a professional educational institution (vocational and technical school, vocational school, etc.) (1210.1), director (head, other head) of an enterprise (1210.1), director (rector, head) of a higher educational institution (technical school, college, institute, academy, university, etc.) (1210.1), director of advanced training courses (1210.1), director of research of the institute (1210.1), the head of the study office (1229.4; 21897), the head of the department (1229.4; 21909), the head of courses (1229.4; 21951), the head of the laboratory (education) (1229.4; 21958), project and program managers (1238), managers (managers) in the field of research and development (1474), head (head) of a department (research, design, project, etc.) (1237.2), head of a department in a college (1229.4), head of a laboratory (research, preparation production skills) (1237.2), researcher (2213.1), teachers (23). Place of employment. The Ministry of Education and Science of Ukraine, institutions of higher education, professional educational institutions (vocational and technical schools and professional colleges), research institutions (stations, laboratories), regional administrations, colleges, institutions of general secondary education, and institutions of postgraduate education.</p>
Further education	<p>Training for development and self-improvement in scientific and professional spheres of activity, as well as other related fields of scientific knowledge: – training at the 10th (post-doctoral) level of the NRC of Ukraine in the field of education; – studies at the 9th (doctoral) level of the National Academy of Sciences of Ukraine in related fields of scientific knowledge; – educational programs, research grants and scholarships (including abroad) containing additional educational components.</p>
1.5. Teaching and assessment	
Teaching and learning	<p>Student-centered learning, problem-oriented learning, electronic learning in the Moodle system, self-learning, and research-based learning. The volume of the educational component of the educational and scientific program for the preparation of a doctor of philosophy is 60 ECTS credits.</p>

	<p>Preparation and defense during the first year of study of a dissertation research project with the study of approaches and methods of achieving the goal. Discussion during the second, third and fourth years of study of the intermediate results of the study. Mastering the methodology of scientific work, and the skills of presenting its results. Conducting independent scientific research using the university's resource base and other resources. Individual scientific guidance, support and counseling by a scientific supervisor.</p> <p>The approach to teaching and learning involves:</p> <ul style="list-style-type: none"> – application of modern educational technology methods (interactive, critical thinking, project, portfolio, training, problem-based learning, simulation-game, case study, quests, etc.) for the productive mastery of learners of different levels of competencies, which ensures their personally oriented approach and development of thinking; – application of educational design technology with paired or group implementation of projects and their protection in the conditions of a broad group discussion; – organization of productive pedagogical interaction with academic supervisors, scientific and pedagogical workers involved in the educational process; – involvement of well-known experts in the field of pedagogical science and practice in advising post-graduate students; – informational support for applicants' participation in competitions for receiving scientific scholarships, prizes, and grants (including international ones); – giving the applicants the opportunity to participate in the preparation of scientific projects for competitions of the Ministry of Education and Science of Ukraine; – direct participation in the execution of budgetary and initiative research works.
<p>Assessment</p>	<p>The educational component of the program. The final control of the success of the graduate student (acquirer) study is carried out in the form:</p> <ul style="list-style-type: none"> – examination (testing) – based on the results of the study of normative and selective educational disciplines of the educational and scientific program; – credit – based on the results of studying all other disciplines provided for in the curriculum. <p>Evaluation of educational achievements is carried out according to the 100-point (rating) ECTS scale, the national 4-point scale («excellent», «good», «satisfactory», «unsatisfactory») and verbal («passed,» «failed») systems.</p>

	<p>Types of control: preliminary, current, final, and self-control. The scientific component of the program. The final result of a graduate student's studies is a properly prepared, based on the results of scientific research, dissertation manuscript, its public defense and the awarding to the higher education seeker of a scientific degree of Doctor of Philosophy in the specialty 015 Professional Education.</p>
1.6. Software competencies	
Integral competence	<p>The ability to solve complex tasks and problems in the field of education (professional education) and/or research and innovation activity, which involves conducting scientific research and/or implementing innovations, is characterized by the uncertainty of conditions and requirements.</p>
General competencies (GC)	<p><i>Synthesis and analysis</i> GC 1. The ability to generalize, critical thinking, analysis and synthesis to understand processes and phenomena in the field of education, and the ability to establish cause-and-effect relationships.</p> <p><i>Scientific and research competences</i> GC 2. Ability to develop and manage projects; to improve and develop the professional, intellectual and cultural level; professionally analyze information, evaluate its completeness and possibilities of its use; to conduct scientific and applied research at a professional level.</p> <p><i>Interpersonal interaction</i> GC 3. Ability to work in a team, conduct scientific discussions, convince and influence other team members; determine the purpose and tasks of one's own and collective activities, foresee alternative solutions in professional activities; find compromise solutions and take responsibility for their implementation.</p> <p><i>Instrumental competences</i> GC 4. Ability to communicate (including in a foreign language); generate new ideas and non-standard approaches to their implementation (creativity).</p> <p><i>Social and personal competences</i> GC 5. The ability to self-manage (planning and solving problems of one's own professional and personal growth), the presence of a scientific worldview, and persistence in achieving the goal. GC 6. Ability to establish social interaction, cooperation, prevent and resolve conflicts in professional activities. GC 7. Ability to observe research ethics, and the rules of academic integrity in scientific research and scientific and pedagogical activities.</p>

<p>Professional competences of the specialty (PC)</p>	<p>PC 1. Ability to understand and use modern theories, methodologies and methods of socio-psychological and other sciences in relation to the tasks of fundamental and applied research in the field of professional education.</p> <p>PC 2. The ability to identify progressive ideas of foreign experience in the functioning of professional education and to determine, on this basis, possible directions for the introduction of these ideas into the domestic education system.</p> <p>PC 3. The ability to communicate with representatives of various structures, to establish interaction between state, public and commercial organizations based on the social partnership.</p> <p>PC 4. The ability to evaluate the process and the result of the work performed, to develop and implement programs to ensure professional education quality. Ability to professional reflection.</p> <p>PC 5. Ability to develop and manage international projects.</p> <p>PC 6. The ability to show initiative and entrepreneurship to solve professional problems through the introduction of innovations.</p> <p>PC 7. The ability to create new knowledge through original research, the quality of which can be recognized at the national and international levels.</p> <p>PC 8. Ability to publicly present and defend the results of dissertation research in compliance with the principles of academic integrity.</p> <p>PC 9. The ability to participate in scientific discussions at the international level, to defend one's own position.</p> <p>PC 10. Ability to implement procedures for designing, organizing and monitoring pedagogical systems and technologies, taking into account the necessary transformations in the educational field (professional education), in the activities of scientists, managers and practicing teachers.</p> <p>PC 11. Ability to teach within the scope of the specialty «Professional Education»; to build constructive interaction with pupils/students, to create a favorable psychological climate in the student group and to form a healthy educational environment.</p>
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1.7. Program learning outcomes

PLO 1. Ability to operate with basic concepts, theories, problems of philosophy and methodology of science, the content of modern philosophical discussions on the issues of social development and education; to reflect on current problems of social and individual existence.

PLO 2. The ability to analyze complex phenomena of social life, to connect general philosophical problems with the solution of tasks arising in professional and scientific and innovative activities, and apply empirical and theoretical methods of cognition.

PLO 3. The ability to identify modern methodological problems of a pedagogical science and scientific activity and carry out their critical analysis, determine the methodology of theoretical and applied scientific research, and characterize the structure and levels of methodology, and conceptual approaches.

PLO 4. Knowledge of the current state and trends in the development of world and domestic theory and methods of professional education.

PLO 5. The ability to critically consider problems in scientific or professional activities at the border of subject areas, to solve complex tasks and problems that require updating and integration of knowledge in conditions of incomplete/insufficient information and conflicting requirements.

PLO 6. Ability and skills to identify and solve scientific tasks and problems in the field of theory and methodology of professional education; to formulate a categorical and conceptual research apparatus; to form the structure of the dissertation research and the classification of its content.

PLO 7. Knowledge and understanding of the theory and methodology of system analysis, knowledge and understanding of the stages of implementation of the system approach during the study of processes and phenomena in the educational environment; ability and skills to use the methodology of system analysis in pedagogical science.

PLO 8. Knowledge and understanding of a foreign language, ability and skills to use it to present scientific results in oral and written forms, understanding of foreign language scientific and professional tests; skills and communication skills in foreign-language scientific and professional environments, the ability to work together with researchers from other countries.

PLO 9. Ability and skills to work with modern bibliographic and reference databases, scientometric platforms Web of Science, Scopus, etc.; identify contradictions and previously unsolved problems or their parts, formulate working hypotheses.

	<p>PLO 10. The ability to determine the stages of conducting experimental work; organize information search, independent selection and quality processing of scientific information, empirical data and their interpretation; to organize research work on the generalization of the pedagogical experience of an educational or educational institution, educational structure, etc.; design, organize and evaluate the implementation of the stages of pedagogical experimental work using innovative technologies.</p> <p>PLO 11. Knowledge of the basic concepts of mathematical statistics and mathematical modeling methods; ability and skills to apply methods of mathematical processing of experimental data and assessment of their accuracy and reliability.</p> <p>PLO 12. Ability to show initiative, independence, originality, and generate new ideas for solving tasks of professional activity.</p> <p>PLO 13. The ability to critically evaluate the results of scientific research and various sources of knowledge about professional activity, and formulate conclusions and recommendations for their implementation.</p> <p>PLO 14. Ability and skills to create new knowledge through original research, the quality of which can be recognized at the national and international levels; participate in scientific discussions at the international level, defend one's own position at conferences, seminars and forums.</p> <p>PLO 15. Skills and abilities to publicly present, defend the results of dissertation research, discuss them and discuss them with the scientific and professional community; use modern tools for visualization of the presentation of the results of the dissertation research.</p> <p>PLO 16. The ability to organize the teaching of educational disciplines of professional training in accordance with the tasks and principles of modern professional education, to use various forms of organizing the educational activity of pupils/students, diagnosis, control and evaluation of its effectiveness.</p> <p>PLO 17. Ability to implement research self-improvement strategies and choose personal and professional self-development means.</p>
1.8. Resource support for program implementation	
Staff support	<p>The high-quality composition of scientific and pedagogical workers who carry out professional training of doctors of philosophy of the educational program «Professional education» meets the licensing conditions (in accordance with the current standards for training applicants of higher education at the third (educational and scientific) level of doctor of philosophy (PhD) (Decree of the Cabinet of Ministers of Ukraine No. 1187 of December 30, 2015</p>

	<p>«On approval of licensing conditions for educational activities of educational institutions»).</p> <p>The educational process is provided by 16 scientific and pedagogical staff of university departments: 11 of them are doctors of science, professors, 2 are doctors of science, associate professors, 3 are candidates of science, associate professors. Scientists who ensure the implementation of the program have the appropriate basic education, the required number of publications in Scopus, Web of Science, professional, scientometric publications, actively participate in scientific and practical conferences of various levels (international, all-Ukrainian, regional). All scientific and pedagogical workers (scientists), in accordance with the agreed schedules, undergo advanced training in institutions of higher education and research institutes in Ukraine and abroad.</p>
<p>Material and technical support</p>	<p>Material and technical support for the professional training of doctors of the philosophy of the educational program «Professional Education» corresponds to the licensing conditions. The teaching of academic disciplines is carried out in laboratories and specialized offices, which are equipped with appropriate equipment and installations. The areas of the premises used in the educational process meet the sanitary standards, and the requirements of the fire safety rules in accordance with the current regulations for the training of applicants for higher education at the third (educational and scientific) level of the Doctor of Philosophy (PhD) (Resolution of the Cabinet of Ministers of Ukraine No. 1187 of December 30, 2015 p. «On the approval of licensing conditions for conducting educational activities of educational institutions»).</p>
<p>Informational and educational and methodological support</p>	<p>Those seeking higher education can use the funds of the scientific library of Ternopil Volodymyr Hnatiuk National Pedagogical University.</p> <p>According to the current regulations for the training of higher education seekers at the third (educational and scientific) level of doctor of philosophy (PhD) (Decree of the Cabinet of Ministers of Ukraine No. 1187 of December 30, 2015, «On approval of licensing conditions for conducting educational activities of educational institutions»), the library's funds include textbooks, study guides, periodicals, reference and other educational literature. The volume of funds is sufficient for the independent and individual work of graduate students. Applicants have the opportunity to use the funds of the electronic library, which includes scientific and scientific-methodical publications of leading domestic and foreign scientists, university teachers. The educational program is fully equipped with educational and methodological complexes from all educational</p>

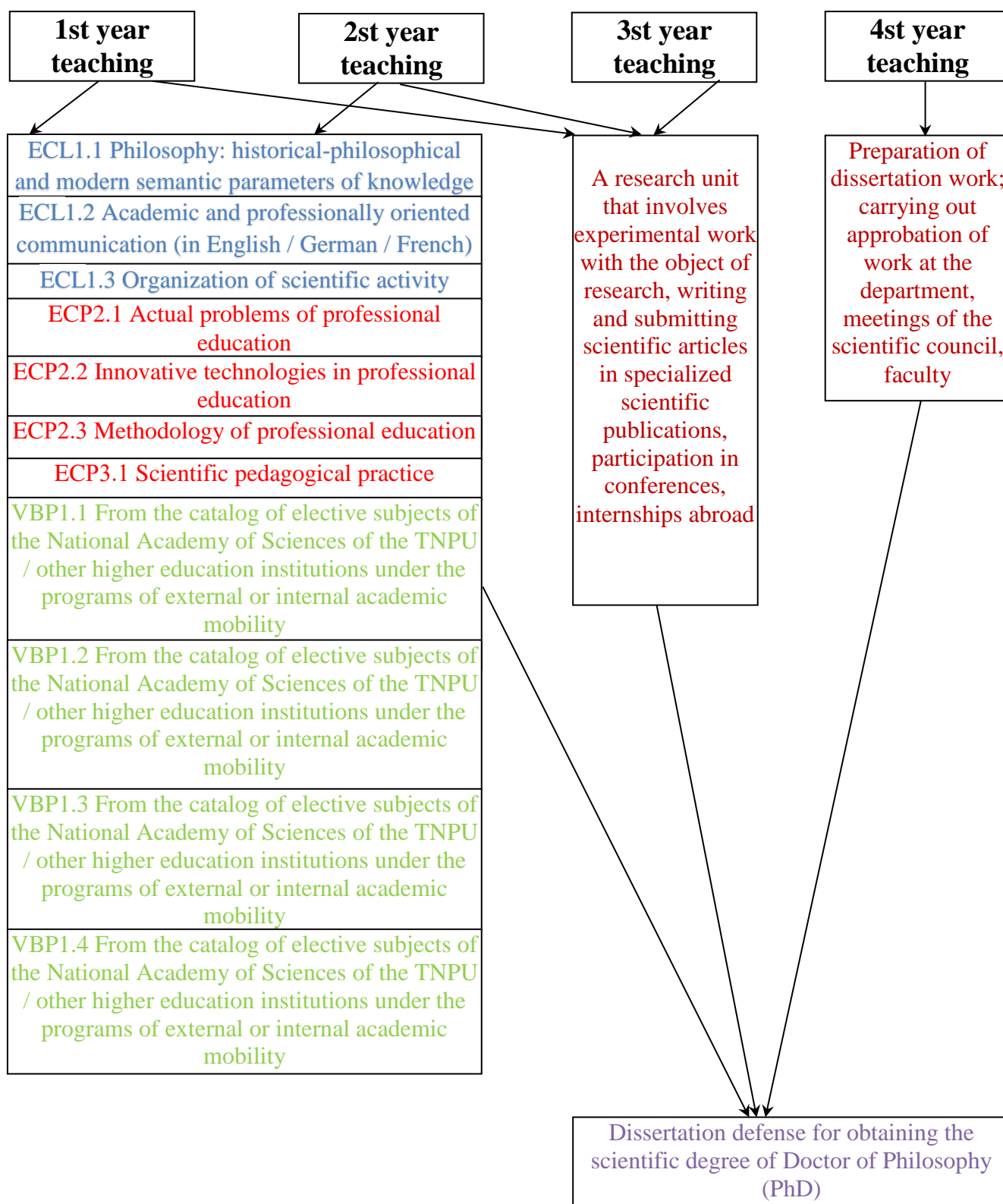
	disciplines, which are located in the educational space of the university.
1.9. Academic mobility	
National credit mobility	TNPU, creatively cooperates with research institutions of Ukraine, NAS of Ukraine, National Academy of Sciences of Ukraine, maintains close ties with related educational institutions of Ukraine: Yuriy Fedkovych Chernivtsi National University, H.S. Skovoroda Kharkiv National Pedagogical University, Hryhorii Skovoroda University in Pereiaslav, National Pedagogical Dragomanov University, Ukrainian Engineering and Pedagogical Academy (Kharkiv) and others.
International credit mobility	<p>TNPU cooperates with higher education institutions of foreign countries in accordance with agreements of TNPU about international credit mobility, in particular, the ERASMUS+:</p> <ul style="list-style-type: none"> – Janusz Korczak Higher Pedagogical School in Warsaw (term of validity of the agreement – February 11, 2020 – February 10, 2025); – Shenyang Pedagogical University (the term of the agreement is 11/29/2018 – 11/28/2023); – Humanitas University (Sosnovets) (term of validity of the agreement – 27.11.2018 - unlimited); – Federation «Exchanges France – Ukraine» (term of validity of the agreement – 10.01.2018 – 10.01.2020); – Vienna Pedagogical Higher School (term of validity of the agreement – 11/27/2017 – 11/27/2020); – Academic Society of Michal Baludyansky (term of the agreement – 07/23/2016 – 07/23/2021); – Academy of Special Pedagogy named after M. Grzegorzewska in Warsaw (term of validity of the agreement – 07.20.2015 - 07.19.2020); – Higher School of Informatics and Economics of the Society of General Knowledge in Olsztyn (term of validity of the agreement – 02/21/2015 – 02/20/2025); – Viktor Frankel Higher Pedagogical School of Carinthia (term of validity of the agreement – 02/06/2009 – 07/01/2020); – Marmara University (Turkey) – (term of validity of the agreement – 11/20/2019 – 11/19/2024); – Angel Kanchev University of Ruse Ruse (Bulgaria) – (term of validity of the agreement – 05.10.2007 – unlimited) and others. <p>http://tnpu.edu.ua/about/pidrozdzily/partners.php</p>
Education of foreign students of higher education	Is carried out

2. List of components of the educational and scientific program and their logical sequence

2.1. List of components of the educational and scientific program

Code	Components of the educational and scientific program (educational disciplines, practices)	ECTS credits	Final control form
1	2	3	4
I. Mandatory components			
General training			
ECL.1.1	Philosophy: historical-philosophical and modern semantic parameters of knowledge	6	exam
ECL.1.2	Academic and professionally oriented communication (in English / German / French)	8	test
ECL.1.3	Organization of scientific activity	8	exam
Professional training			
ECP.2.1	Actual problems of professional education	6	test
ECP.2.2	Innovative technologies in professional education	5	test
ECP.2.3	Methodology of professional education	6	test
Practice			
ECP.3.1	Scientific pedagogical practice	6	test
	The total volume of mandatory components	45	
II. Selective OP components			
Professional training			
VBP.1.1	From the catalog of elective subjects of the National Academy of Sciences of the TNPU / other higher education institutions under the programs of external or internal academic mobility	4	test
VBP.1.2	From the catalog of elective subjects of the National Academy of Sciences of the TNPU / other higher education institutions under the programs of external or internal academic mobility	4	test
VBP.1.3	From the catalog of elective subjects of the National Academy of Sciences of the TNPU / other higher education institutions under the programs of external or internal academic mobility	4	exam
VBP.1.4	From the catalog of elective subjects of the National Academy of Sciences of the TNPU / other higher education institutions under the programs of external or internal academic mobility	3	exam
	The total amount of sample components	15	
	The total scope of the program	60	

2.2. Structural and logical diagram of the components of the educational and scientific program «Professional Education»



3. Form of attestation of applicants of higher education

Forms of attestation of applicants of higher education	<p>Attestation of candidates for the educational level of Doctor of Philosophy is carried out in the form of a public defense of a dissertation. A mandatory condition for admission to the defense is the applicant's successful completion of his individual study plan.</p>
Dissertation requirements for obtaining the degree of Doctor of Philosophy	<p>The dissertation work of the Doctor of Philosophy involves the solution of an actual theoretical and/or applied problem in the field of professional education and testifies to the ability of the researcher to conduct independent scientific research, formulate new complex ideas and justify them.</p> <p>The dissertation should not contain academic plagiarism, falsification, and fabrication.</p> <p>The dissertation must meet the requirements established by law.</p>
Requirements for public protection	<p>The defense of the dissertation takes place in public at a meeting of the specialized academic council. A mandatory prerequisite for admission to the defense of a dissertation is the approval of research results and main conclusions at scientific conferences and their publication in specialized scientific publications, including those included in scientometric bases, in accordance with the requirements of the Ministry of Education and Science of Ukraine.</p>
Internal support system quality of higher education	<p>The system of internal quality assurance functions, which provides for the implementation of the following procedures and measures:</p> <ul style="list-style-type: none"> – determination of principles and procedures for ensuring the quality of higher education; – implementation of monitoring and periodic review of educational programs; – ensuring the availability of the necessary resources for the organization of the educational process, including the independent work of applicants; – ensuring the availability of information systems for effective management of the educational process; – ensuring publicity of information about educational programs, degrees of higher education and qualifications; – ensuring compliance with academic integrity by employees of higher education institutions and students of higher education, including the creation and operation of an effective system for the prevention and detection of academic plagiarism.

	<p>The system of higher education quality assurance of educational activities and the quality of higher education at the request of the higher education institution is assessed by the National Agency for Quality Assurance of Higher Education or by independent higher education assessment and quality assurance institutions accredited by it for compliance with the requirements for the system of quality assurance of higher education approved by the National Agency for Quality Assurance quality of higher education, and international standards and recommendations for ensuring the quality of higher education.</p> <p>It is regulated by the regulation on the internal system of quality assurance at Ternopil Volodymyr Hnatyuk National Pedagogical University, approved by the academic council of the university, protocol № 7 dated February 23, 2016, with changes and additions approved by the academic council of the university, protocol № 6 dated December 23. 2018, put into effect by the rector's order № 29-r dated January 29, 2019.</p>
<p>Principles and procedures for ensuring the quality of education</p>	<p>Information about the quality of higher education is open and available to the general public. The University forms and improves the requirements for the quality assurance system of higher education, focusing on the main goals of higher education; has a transparent mechanism for the formation, monitoring and revision of educational, educational and scientific programs, which contain specific goals, focused on the results of training and qualifications; clear rules for the organization of training of higher education applicants; necessary resources for carrying out educational activities and supporting graduate students; collects, analyzes and uses the necessary information for effective management of its educational activities.</p> <p>The principles and procedures for ensuring the quality of education are provided for in the «Program of measures to ensure the quality of education at Ternopil Volodymyr Hnatiuk National Pedagogical University, approved by the academic council of the university, protocol № 8 dated January 29, 2019, put into effect by the rector's order № 29 of 29.01.2019</p>
<p>Monitoring and periodic review of educational programs</p>	<p>It is regulated by the regulation on the internal system of ensuring the quality of educational activities at Ternopil Volodymyr Hnatiuk National Pedagogical University, approved by the academic council of the university, protocol № 7 dated 23.02.2016.</p>

Annual assessment of higher education applicants	It is carried out twice a year in the form of attestation and ongoing evaluation of the scientific activity of the educational-scientific Doctor of Philosophy degree holders at the graduation departments.
Improving the qualifications of scientific and pedagogical and scientific workers	Regulated by the Standard Regulation on advanced training and internship of teaching and research and teaching staff of higher educational institutions (approved by Order № 48 of the Ministry of Education and Science, Youth and Sports of Ukraine dated January 24, 2013, registered in the Ministry of Justice of Ukraine on March 26, 2013) https://zakon.rada.gov.ua/laws/show/z0488-13 .
The availability of the necessary resources for the organization of the educational process	Personnel, material and technical, informational and methodical support of the educational process meets the requirements of the Resolution of the Cabinet of Ministers of Ukraine № 187 of December 30, 2015, «On approval of the Licensing conditions for conducting educational activities of educational institutions».
Publicity of information about educational programs, degrees of higher education and qualifications	Public access to information on the training of doctors of philosophy under the educational and scientific program «Professional Education» is provided via the following links: http://www.tnpu.edu.ua/naukova-robota/aspirantura.php
Prevention and detection of academic plagiarism	<p>Prevention of plagiarism (compilation) in the educational process is carried out by:</p> <ul style="list-style-type: none"> – formation, publication and distribution of methodical materials with a unified definition of requirements for proper design of references to materials used in written works; – emphasis on the principles of independent performance of scientific research, correct use of information from other sources and avoidance of plagiarism, as well as rules for describing sources and design of citations. <p>Academic supervisors must monitor and prevent academic plagiarism at all stages of dissertation research.</p> <p>Detection of facts of plagiarism (compilations) in the presented sections of the dissertation work or articles of graduate students may be grounds for exclusion from graduate school.</p>

4. Matrix of correspondence of program competencies to the components of the educational and scientific program

	ECL 1.1	ECL. 1.2	ECL. 1.3	ECP. 2.1	ECP. 2.2	ECP. 2.3	ECP. 3.1	VBP. 1.1	VBP. 1.2	VBP. 1.3	VBP. 1.4
GC 1	+		+	+		+	+	+	+	+	+
GC 2			+	+	+	+	+	+		+	+
GC 3		+	+	+	+	+	+	+	+		+
GC 4		+	+	+	+	+	+	+	+		
GC 5	+		+	+	+		+		+	+	
GC 6				+	+		+	+	+	+	+
GC 7			+	+	+		+				+
PC 1	+		+	+		+	+				+
PC 2				+	+	+	+			+	+
PC 3		+	+				+	+	+		
PC 4			+	+	+		+		+	+	+
PC 5		+	+		+						
PC 6			+		+		+		+		
PC 7			+	+	+						
PC 8			+				+				
PC 9	+	+	+	+	+	+	+	+	+		
PC 10			+	+	+	+	+				+
PC 11				+			+	+	+		+

5. Matrix of provision of program learning outcomes (PRL) with relevant components of the educational and scientific program

	ECL. 1.1	ECL. 1.2	ECL. 1.3	ECP. 2.1	ECP. 2.2	ECP. 2.3	ECP. 3.1	VBP. 1.1	VBP. 1.2	VBP. 1.3	VBP. 1.4
PLO 1	+					+			+	+	+
PLO 2	+				+			+	+	+	+
PLO 3			+			+					
PLO 4				+	+		+				+
PLO 5			+	+	+	+	+		+	+	+
PLO 6			+	+		+					+
PLO 7	+					+					+
PLO 8		+						+			
PLO 9					+						
PLO 10			+		+		+				
PLO 11			+			+					
PLO 12				+	+		+	+	+	+	+
PLO 13			+	+			+				+
PLO 14		+	+		+	+					
PLO 15		+	+		+			+			
PLO 16				+	+		+				+
PLO 17			+			+	+	+	+	+	+

6. Regulatory framework

6.1. Official documents

1. ESG 2015 (Standards and recommendations for quality assurance in the EEA) - https://ihed.org.ua/wp-content/uploads/2018/10/04_2016_ESG_2015.pdf.

2. EQF 2017 (European Qualifications Framework) – <https://publications.europa.eu/en/publication-detail/-/publication/ceed970-518f-11e7-a5ca-01aa75ed71a1/language-en>; <https://ec.europa.eu/ploteus/content/descriptors-page>.

3. QF EHEA 2018 (EHEA Qualifications Framework) – http://www.ehea.info/Upload/document/ministerial_declarations/EHEAParis2018_Communique_AppendixIII_952778.pdf

4. ISCED (International Standard Classification of Education, ISCED) 2011 - <http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf>; <http://uis.unesco.org/en/topic/international-standardclassification-education-isced>.

5. ISCED-F (International Standard Classification of Education - Fields, MSCO-G) 2013 - <http://uis.unesco.org/sites/default/files/documents/international-standardclassification-of-education-fields-of-education-and-training-2013-detailed-field-descriptions-2015-en.pdf>.

6. Law «On Higher Education» – <http://zakon4.rada.gov.ua/laws/show/1556-18>.

7. Law «On Education» – <http://zakon5.rada.gov.ua/laws/show/2145-19>.

8. National Classifier of Ukraine: Classifier of Professions DK 003:2010. – <https://zakon.rada.gov.ua/rada/show/va327609-10>.

9. National framework of qualifications – <http://zakon4.rada.gov.ua/laws/show/1341-2011-p>.

10. List of fields of knowledge and specialties, 2015 – <http://zakon4.rada.gov.ua/laws/show/266-2015-p>.

11. Decree of the President of Ukraine «Issues of European and Euro-Atlantic Integration» dated April 20, 2019 No. 155/2019 - <https://www.president.gov.ua/documents/1552019-26586>.

12. Resolution of the Cabinet of Ministers of Ukraine «On approval of the Procedure for the preparation of higher education applicants for the degree of Doctor of Philosophy and Doctor of Sciences in higher educational institutions (scientific institutions)» № 261 of March 23, 2016.

13. Methodological recommendations for the development of higher education standards, approved by the order of the Ministry of Education and Science of Ukraine dated 01.06.2017 № 600 (as amended by the order of the Ministry of Education and Science of Ukraine dated 01.10.2019 № 1254), approved by the sector of higher education of the Scientific and Methodological Council of the Ministry of Education and Science of Ukraine (protocol № 3 dated June 21, 2019).

6.2. Other recommended sources

1. EU TUNING project (examples of learning outcomes, competencies) – <http://www.unideusto.org/tuningeu>.

2. National glossary: higher education, 2014 - <http://erasmusplus.org.ua/korysna-informatsiia/korysni-materialy/category/3-materialynatsionalnoi-komandy-ekspertiv-shchodo-zaprovdzhennia-instrumentiv-bolonskohoprotsesu.html?start=80>.

3. Rashkevich Yu. M. The Bologna process and the new paradigm of higher education: monograph –

<http://erasmusplus.org.ua/korysna-informatsiia/korysnimaterialy/category/3-materialy-natsionalnoi-komandy-ekspertiv-shchodo-zaprovdzhennia-instrumentiv-bolonskoho-protsesu.html?start=80>.

4. Development of educational programs: methodological recommendations – <http://erasmusplus.org.ua/korysna-informatsiia/korysni-materialy/category/3-materialynatsionalnoi-komandy-ekspertiv-shchodo-zaprovadzhennia-instrumentiv-bolonskohoprotsesu.html?start=80> .

The guarantor of the educational program

Roman HORBATYUK

The program was considered at the meeting
Department of Mechanical Science and Transport,
protocol No 12 dated April 13, 2022
Head of the Department of Mechanical Engineering
and transport

Roman HORBATYUK

The program is approved by the academic council
engineering and pedagogical faculty
Protocol No 8 dated May 26, 2022
The head of the academic council of the faculty

Boris STRUGHANETS

The educational and scientific program is
recommended for implementation by the
academic council of Ternopil National
Pedagogical University named after Volodymyr Hnatyuk
Protocol No 13 dated June 28, 2022

Scientific secretary of the scientific council



Viktoriya GEVKO