Ministry of Education and Science of Ukraine

V. N. Karazin Kharkiv National University

EDUCATIONAL AND SCIENTIFIC PROGRAM

(educational and professional / educational and scientific)

Medicine (Medicine)

(program name)

The third (educational and scientific) level of higher education

(first (bachelor), second (master), third (educational and scientific)

Field of knowledge I Health care

(code, branch name)

Specialty I2 Medicine

(code, name of specialty)

Specialization (if available) _____

(name of specialization, (specializations))

APPROVED
Scientific council of
Kharkiv National University
named after V.N. Karazin dated "26" May 2025,
protocol No. 14
Entered into force from 2025 academic year
by order of 28.05.2025 No. 0114-1/254
Vice-rector for scientific and pedagogical work

_____ Anton PANTELEIMONOV

Kharkiv 2025

LETTER OF AGREEMENT

educational and scientific program

"Medicine"

The educational program was reviewed and approved by:

1. The Scientific and Methodological Council of Kharkiv National University named after V. N. Karazin, Protocol No10 dated "21" May 2025.

Deputy Chairman of the Scientific and Methodological Council _____ (Sergey YELTSOV)

2. The academic council of the School of Medicine:

Protocol No. __ dated "__" _____ 2025

Head of the Academic Council of the School _____ (Tetiana LIADOVA)

3. Scientific and Methodological Commission of the School of Medicine:

protocol No. ___ dated "____" _____ 2025

Chairman of the Scientific and Methodical Commission

school/institute _____ (Vasyl KUSHNIR)

4. Departments of Internal Medicine:

protocol No. ___ dated "___" _____ 2025

Head of Department,

Doctor of Medicine, professor _____ (Tetiana TYKHONOVA)

5. Departments of Hygiene and Social Medicine:

protocol No. __ dated "___" _____ 2025

Acting Head of Department,

Doctor of Medicine, Associate Professor _____ (Natalia MIKHANOVSKA)

6. Departments of Infectious Diseases and Clinical Immunology:

protocol No. 09 dated "___" _____ 2025

Head of Department,

Doctor of Medicine, Professor _____ (Olga VOLOBUIEVA)

7. Departments of the English language:

protocol No.____ dated "_____" _____ 2025

Head of Department,

Ph.D. in Philology, associate professor _____ (Ganna GUSIEVA)

8. Departments of Pedagogy:

protocol No.____ dated"_____" _____ 2025

Head of Department,

Doctor of Pedagogy, Professor _____ (Nataliia TKACHOVA)

9. Departments of the Theory of Culture and Philosophy of Science:

protocol No. 10 dated "21" 05. 2025

Head of Department,

Doctor of Philosophy, associate professor _____ (Dmitry PETRENKO)

PREAMBLE

Developed by a working group consisting of:

Full Name	Job title	Scientific degree, scientific title
The head of the working group is the guarantor of the educational and scientific program		
Tetiana M. Tykhonova	Professor, Head of the Department of Internal Medicine	doctor of medical sciences, professor
Members of the working group		
Tetiana I. Liadova	Professor of the Department of Infectious Diseases and Clinical Immunology, Dean of the School of Medicine	doctor of medical sciences, professor
Mariia S. Matvieienko	Associate Professor of the Department of Surgical Diseases, Deputy dean for scientific work, Associate Dean of Research, Candidate of Medicine	PhD (medicine), associate professor
Tamara S. Mishchenko	Professor ,Head of the Department of Neurology, Psychiatry, Narcology and Medical Psychology	doctor of medical sciences, professor
Oleksij I. Tsivenko	Professor of the Department of Surgical Diseases	doctor of medical sciences, professor
Natalia S. Shevchenko	Professor, Head of the Department of Pediatrics No. 2	doctor of medical sciences, professor

The following persons are included in the design of the educational and scientific program:

Representatives of higher education applicants: Rudas Ivan Andriyovych, applicant of the Department of General Surgery, Anesthesiology and Palliative Medicine (2024-2028); Holub Oleksiy Igorovych, applicant of the Department of General and Clinical Immunology and Allergology (2023-2026); Koshurba Ilya Vasylovich, applicant of the Department of General and Clinical Immunology and Allergology (defense 12.02.2025).

Employer representatives:

- Andriy NESEN, Doctor of Medical Sciences, Senior Research Fellow, Head of the Department of Prevention and Treatment of Kidney Diseases in Comorbid Conditions of the State Institution "National Institute of Therapy named after L.T. Malai NAMS of Ukraine"

- Yuriy ATAMAN, Head of the Department of Physical Therapy, Occupational Therapy and Sports Medicine of Sumy State University, Doctor of Medical Sciences, Professor

- Vitaliy MELNYK, Municipal Non-Profit Enterprise "City Student Hospital" of the Kharkiv City Council, Medical Director for Outpatient and Polyclinic Work

- Oleksiy SAVVO, Medical Director for Inpatient Care of the Regional Clinical Children's Hospital, Candidate of Medical Sciences, Associate Professor

The following requirements are taken into account when developing the Program project:

1) Temporary standard;

2) National qualification framework;

3) Law of Ukraine "On Higher Education" dated July 1, 2014 No. 1556-VII (as amended);

4) Resolutions of the Cabinet of Ministers of Ukraine "On Approval of the National Framework of Qualifications" dated November 23, 2011 No. 1341, dated December 30, 2015 No. 1187 (with amendments);

5) Resolution of the Cabinet of Ministers of Ukraine "On approval of the Licensing conditions for conducting educational activities of educational institutions" dated 12.30.2015 No. 1187 (with amendments);

6) Methodological recommendations of the Ministry of Education and Culture regarding the development of higher education standards dated June 1, 2017 No. 600;

7) Resolution of the Cabinet of Ministers of Ukraine "On approval of the Procedure for the training of higher education applicants for the degree of Doctor of Philosophy and Doctor of Science in higher educational institutions (scientific institutions)" dated March 23, 2016 No. 26 (with amendments);

8) Standards for PhD Education in Biomedicine and Health Sciences in Europe - ORPHEUS/AMSE/WFME. – Medicinskanaklada, Zagreb. – 2012. Access: http://orpheus.in.ua/sites/default/files/file/tonya/ORPHEUS-AMSE-WFME_ru.pdf

Reviews of external stakeholders (if available):

1. Yuriy ATAMAN, Doctor of Medical Sciences, Professor, Head of the Department of Physical Therapy, Occupational Therapy and Sports Medicine of Sumy State University of the Ministry of Education and Science of Ukraine

2. Vitaliy MELNYK, Medical Director for Outpatient and Polyclinic Work, Municipal Non-Profit Enterprise "City Student Hospital" of the Kharkiv City Council

3. Oleksiy SAVVO, Candidate of Medical Sciences, Associate Professor, Medical Director for Inpatient Care of the Regional Clinical Children's Hospital

4. Mykola KRASNOSELSKY, Doctor of Medical Sciences, Professor, Acting Director of the State Institution "S.P. Grigoriev Institute of Medical Radiology and Oncology of the National Academy of Medical Sciences of Ukraine"

5. Lyudmila DERIVEDMID, Doctor of Medical Sciences, Professor of the Department of Pharmacology and Clinical Pharmacy of the National Pharmaceutical University of the Ministry of Health of Ukraine

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1. Profile of the educational and scientific program

1 - General information	
Full name of the higher education institution and structural unit	V.N. Karazin Kharkiv National University School of Medicine
The official name of the program	Medicine
Degree of higher education	Doctor of Philosophy
Awardable qualification	Doctor of Philosophy in specialty 222 "Medicine" (PhD)
Type of diploma and scope of the educational program	Individual, The scope of the educational and scientific program is 54 ECTS credits/4 years of study
Availability of accreditation	National Agency for Quality Assurance of Higher Education, Ukraine. The validity period of the educational program accreditation certificate is July 1, 2027.
Prerequisites	Availibility of a master's degree in the specialty 222 "Medicine" or the educational and qualification level of a specialist in the specialty "Medical Business" Admission conditions are determined by the "Rules of Admission to Kharkiv National University named after V. N. Karazin", which are approved by the Academic Council.
Language of teaching	Ukrainian, English
The term of validity of the educational program	2023-2024
Internet address of the permanent placement of the description of the educational program	**http://start.karazin.ua/programs/8/22** http://medicine.karazin.ua/research/aspirantura
2 - The purpose of the educational program	
The purpose of the program	Training of specialists who, on the basis of in-depth theoretical knowledge, practical skills and abilities, are able to solve complex problems in the field of health care, carry out research and innovation activities in this field, carry out original scientific research, obtain new facts and implement results of works in practical medicine and scientific and pedagogical activities.

3 – Characteristics of the educational program	
Subject area (field of knowledge, specialty, specialization (if available))	Field of knowledge - 22 "Health care" Specialty - 222 "Medicine"
Orientation of the educational program	Research
The main focus of the educational program and specialization	Scientific research in the field of medicine by specialization: obstetrics and gynecology; anesthesiology and intensive care; internal diseases; genetics; general practice - family medicine; epidemiology; immunology and allergology; infectious diseases; cardiology; nervous diseases; oncology; otorhinolaryngology; ophthalmology; pathological anatomy; psychiatry; radiation medicine; cardiovascular surgery; traumatology and orthopedics; skin and venereal diseases.
Features of the program	An important feature of this program is its interdisciplinary nature, namely the integration of fundamental knowledge with clinical practice. This is ensured by inter-faculty scientific connections within the multidisciplinary university, which is the basis for students to obtain in-depth theoretical knowledge and determines the appropriate modern level of scientific research. The practical component of the program is implemented at the clinical bases of the university, most of which are state clinics under the National Academy of Sciences of Ukraine. The educational and scientific program also provides for the implementation of the main directions of the University Development Strategy for 2019-2025.
4 – Employability of graduates and further education	
Suitability for employment	A specialist can hold primary positions (according to Classification of occupation 003:2010): 2310 University and other teachers of higher education institution 2310.1 Docent 2359.1 Research associate, research associate-consultant 20481 Doctor
Further education	Obtaining (or receiving) a scientific degree of Doctor of Sciences at the scientific level of higher education, participation in post-doctoral programs.
5 – Teaching and assessment	
Teaching and learning	A problem-oriented teaching style and research-based teaching will be used in the teaching of academic subjects. The problem-

	based teaching method encourages the subject of cognitive activity to enrich knowledge. Orientation in teaching to research stimulates students to independently search for analytical and scientific justification of answers to problematic questions. Applicants are involved in active and productive activities, they observe, listen, and understand the logic of scientific research, participate in proving the hypothesis, check the correctness of the problem solution. An important form of work is scientific debates in the audience, where the ability to formulate reasoned answers to debatable scientific questions, reveal contradictions in knowledge and knowledge processes, and defend one's point of view is practiced. The programming method develops the logic of a scientific solution to a research problem through a step-by-step breakdown of the educational material with questions and tasks for each of its parts. The teacher encourages students to do independent theoretical work on determining the algorithm for finding a solution to a problem, active participation in formulating a problem situation, making assumptions, proving a hypothesis and checking the correctness of its solution. Training is organized in study groups according to the schedule in the following system: lecture, seminar/practical classes/group and individual assignments, etc. Systematic implementation of current and intermediate control of knowledge makes it possible to quickly correct the educational process through the feedback system (from the student to the teacher). Historical, systemic, procedural, heuristic, and structural-functional approaches, as well as generalization, modeling, forecasting, interdisciplinarity etc will be applied when teaching the thematic material of the relevant disciplines. In the organization of the educational process, special attention is paid to the individual work of applicants, distance learning, and practical classes aimed at practicing research skills and abilities.
Assessment	The evaluation covers all types of educational work of the applicant: classwork, individual work, and pedagogical practice. The final control score for a certain discipline is the sum of the points scored by the applicant during the semester when performing all the forms of control in the work program of the academic discipline (practice)/syllabi and the points scored during the semester exam (performance of the final assessment work). The maximum number of points that the applicant can score based on the results of studying a certain discipline is 100, including 60 points for educational activities during the semester and 40 points based on the results of passing the semester exam or completing the final assessment work.

	Current control checks knowledge acquired during practical and seminar classes, in the form of testing, presentation of reports, projects, and demonstration of practical skills. Final control of knowledge is carried out in the form of tests (credits), final controls, and exams.

6 – Program competencies

The development of competencies is the goal of educational programs. Competencies are formed in different academic disciplines and are evaluated at different stages. Program competencies include the following blocks: integral, general, professional, research, communicative, managerial, scientific-pedagogical, ethical, and special professional ones.

Competence structure:

Integral competence	The ability to solve complex problems in the field of professional medical activity, conduct original scientific research and carry out research and innovation activities in the field of health care based on deep analysis of existing knowledge and creation of new coherent theoretical or practical knowledge and/or professional practice.
General competences	GC1. The ability to improve professional qualifications. GC2. The ability to search, process and analyze information from various sources. GC3. The ability to identify, pose and solve problems, generate ideas. GC4. The ability to develop and manage projects. GC5. The ability to communicate in a professional environment and with representatives of other professions in a national and international context. GC6. The ability to evaluate and ensure the quality of the work performed.
Professional competences	PC 1. The ability to understand the subject area of the chosen scientific direction and educational activity. PC 2. The ability to identify the need for additional knowledge in the field of medicine and in the direction of scientific research, to generate scientific hypotheses. PC 3. The ability to formulate a research question, develop a scientific research project. PC 4. The ability to choose methods and endpoints of research in accordance with the goals and objectives of a scientific project. PC 5. The proficiency in modern methods of scientific research. PC 6. The ability to interpret the results of scientific research, conduct their correct analysis and generalization. PC 7. The ability to introduce new knowledge (scientific data) into science, education and other sectors of society. PC 8. The ability to present the results of scientific research in oral and written language in accordance with national and international standards. PC 9. The ability to organize and implement pedagogical activities. PC 10. The ability to lead and manage a team.

	PC 11. The compliance with ethics and academic integrity.
Research competences	RC 01 The ability to think critically, in particular, the ability to apply critical thinking to the analysis of the results of one's own scientific research, its scientific novelty, theoretical and practical significance RC 02 The ability to formulate the design of one's own scientific research from new research positions, realize its relevance, purpose and significance for the development of other branches of science RC 03 The ability to participate in interdisciplinary projects and the ability to use the results of scientific research in other fields of science to achieve the goals of one's own scientific research RC 04 The ability to effectively use the modern methodology of scientific knowledge and the latest methods of scientific research RC 05 To initiate, organize and conduct complex theoretical and experimental studies in the field of scientific research and innovation activities, which lead to the acquisition of new knowledge RC 06 To conduct one's own original scientific research that contains scientific novelty and has important theoretical and practical significance RC 07 The ability to competently reflect the results of scientific research in scientific articles and theses published both in specialized domestic publications and in publications that are included in international scientometric bases RC 08 The ability to professionally present the results of one's research at international scientific conferences, seminars for the domestic and global scientific community RC 09 The ability to work with catalogs, specialty databases and scientometric databases RC 10 To possess the skills of applying synergistic methodology in research and teaching activities, knowledge of the fundamental principles of the modern scientific picture of the world RC11 The knowledge of the history of the field of science in which one's own research is carried out, awareness of the place of the results of the scientific research for the development of medical science.
Communicative competences	CC 1 The ability to freely use native and foreign (primarily English) languages in scientific work, scientific-pedagogical and innovative activities, in the practice of everyday communication in real time CC 2 The ability to write one's own scientific works in Ukrainian and foreign languages of different content and scope (scientific article, author's abstract, conference theses, scientific report, request

	for a scientific grant, agreement on cooperation, research report, dissertation, etc.) CC 3 The ability to write one's own scientific and pedagogical works of different content and volume in Ukrainian and foreign languages (working curriculum, lecture notes, chapters in a study guide, a textbook, etc.) CC 4 The ability to use a foreign language in scientific, innovative and pedagogical activities (oral presentation at a conference, use of a foreign language in business negotiations regarding the commercialization of the results of scientific research, conducting lectures in a foreign language on normative courses and special courses according to the profile of the department, consulting students in a foreign language, conducting one-time presentation and career orientation lectures in a foreign language for different categories of listeners, etc.) CC 5 The ability and skills to use modern information and communication technologies in communication, exchange of information, collection, analysis, processing, interpretation of data and presentation of results CC 6 The ability to work with scientometric databases in order to carry out one's own scientific research and the ability to use Internet technologies to organize and ensure one's own scientific, pedagogical and innovative activities, in the preparation of scientific publications, reports, business and personal documentation CC 7 The ability to practically use distance learning information technologies in one's own pedagogical activities, in the organization and conduct of scientific events (conferences, scientific seminars, master classes, etc.) CC 8 The ability to work effectively in a team CC 9 The ability to work effectively independently CC 10 The ability to work with experts
Management competences	MC 1 The ability to participate in the organization of the work of the department, school, university, to know and understand the principles of the organization of the work of the research sector/laboratory, research topic according to the study profile (distribution of functional duties, technical task of the scientific and research work, place of research sector/laboratory in the system of scientific work school and university, etc.) MC 2 To know the principles of financing the scientific and research work and the structure of estimates for its implementation, the ability to prepare a request for financing, reporting documentation

	MC 3 To know the basics of managing the research sector/laboratory, the basics of managing the research work of the school and university (work plan, regulations, indicators) MC 4 The ability to form a team of researchers to solve a local problem (conducting an experiment, collecting information, preparing proposals)
Scientific and pedagogical competences	SPC 1 The ability to participate in the organization of scientific and pedagogical work of the specialized department, to know and understand the principles of organizing the work of the specialized department (distribution of functional responsibilities, distribution of pedagogical load, place of the department in the system of research work of the school and university) SPC 2 Practical ability to create one's own scientific and pedagogical work according to the profile of the department (working curriculum, lecture notes, educational and methodological complex, sections of the educational and methodological manual, educational manual, textbook, workshop, ability to conduct practical, seminar classes, consultations, manage individual work, etc.) SPC 3 The ability to plan and effectively use time in scientific and pedagogical work
Ethical competences	EC 1 To comply with the norms of scientific ethics regarding the implementation of scientific activities and the conduct of one's own scientific research EC 2 To observe the norms of medical ethics regarding work with patients EC 3 To know and correctly refer to the developments of domestic and foreign scientists, scientific schools and fundamental works in the field of research, formulate the purpose of one's own scientific research as a component of the scientific research process
Special professional competences	SPC 1 To be able to independently collect, analyze and summarize the results of the survey and examination of patients SPC 2 To apply a wide range of additional methods of diagnosing diseases in accordance with the chosen topic of research work SPC 3 To use current protocols for providing medical care SPC 4 To independently summarize the obtained diagnostic information with the formulation of a clinical diagnosis SPC 5 To be able to independently provide therapeutic support to patients in a hospital and clinic SPC 6 To be able to independently carry out diagnostic and treatment procedures that are used in scientific research

	SPC 7 To formulate research hypotheses, determine methods of their verification and carry out their verification SPC 8 To apply a wide range of methods of theoretical and empirical analysis of medical phenomena and processes.
7 – Program learning outcomes	
Program learning outcomes	PLO 1. To demonstrate the continuous development of one's own intellectual and general cultural level, and self-realization PLO 2. To interpret and analyze information using the latest information technologies PLO 3. To identify unsolved problems in the subject area, formulate questions and determine ways to solve them PLO 4. To formulate scientific hypotheses, the purpose and tasks of scientific research PLO 5. To develop the design and plan of scientific research PLO 6. To carry out original scientific research PLO 7. To explain the principles, specificity and sensitivity of research methods, informativeness of selected indicators PLO 8. To possess, improve and implement new research methods in the chosen direction of the scientific project and educational activity PLO 9. To analyze the results of scientific research, use statistical research methods PLO 10. To introduce the results of scientific research into the educational process, medical practice and society PLO 11. To present the results of scientific research in the form of presentations, poster reports, and publications PLO 12. To develop communication in the professional environment and the public sphere PLO 13. To organize the educational process PLO 14. To evaluate the effectiveness of the educational process, recommend ways how to improve it PLO 15. To organize the work of the team (students, colleagues, interdisciplinary team) PLO 16. To adhere to ethical principles when working with patients and laboratory animals PLO 17. To adhere to academic integrity, bear responsibility for the reliability of the obtained scientific results
8 – Resource support for program implementation	
Specific characteristics of personnel support	Project group: doctors of science, professors. Guarantor of the educational program (head of the project group): MD, prof. Tetyana Mykhailovna Tikhonova has more than 15 years of experience in research and teaching, and is a recognized professional with experience in research in the field of health care. The vast majority of members of the project group are full-time employees of Kharkiv National University. All scientific and

	pedagogical workers have a scientific degree and academic title and a confirmed level of scientific and professional activity.
Specific characteristics of material and technical support	Provision of educational facilities, computer workstations, and multimedia equipment meet the need. To apply all practical skills, the school has a "Simulation Center" (work with simulated patients). The entire necessary social and household infrastructure is available, the number of places in the dormitories meets the requirements. Scientific research is conducted at clinical bases on the basis of bilateral agreements with V.N. Karazin Kharkiv National University. The University has local computer networks and wireless Internet access points. The use of the Internet is unlimited.
Specific characteristics of information and educational and methodological support	Adequate educational and methodological support: work programs of educational disciplines, methodological developments for seminars, practical classes, laboratory workshops, methodological instructions for independent work of students, individual tasks of a practical orientation; methodical materials for writing disease histories, undertaking internships, tasks for knowledge control (examination papers, test tasks, module and complex control works); modern information sources and computer equipment; own web page; internet connection; a library with modern educational literature, scientific, reference and professional periodicals. The official websites of the university https://www.univer.kharkov.ua/ and the medical school http://medicine.karazin.ua/ contain information about educational programs, educational, scientific and educational activities, structural units, admission rules, contacts. For readers, there are 5 subscriptions, 15 specialized halls (803 seats, area - 1,890.5 square meters). All reading rooms and educational subscriptions work in the open access mode, which allows readers to be involved in independent work with the fund. The Central Science Library provides access to many well-known electronic databases: EBSCO Publishing, Royal Society of Chemistry. The electronic library of the Central Bank of Ukraine provides access to the most famous publishers of electronic journals, such as IOP science Journals, Oxford Journals, Passport GMID of the Euromonitor company, HINARI (Health Inter Network Access to Research Initiative) and others, test accesses are provided every month.
9 – Academic mobility	
National credit mobility	On the basis of bilateral agreements between V. N. Karazin KhNU and universities of Ukraine.
International credit mobility	Conducting international academic mobility within the Erasmus+ and Erasmus Mundus Medea programs

Education of foreign students of higher education	Study conditions for foreign students in accordance with the requirements of the law

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

2.1. Educational component of the Educational and Scientific program (ESP) of Doctor of Philosophy

Code n/a	Components of the educational program (study subjects, course projects (works), practices, qualification work)	Number of credits	Final control form
1	2	3	4
Mandatory components (MC)			
MC 1.	Philosophical foundations of scientific knowledge	4	Exam
MC 2.	Foreign language for postgraduate students	8	Credit Exam
MC 3.	Psychology, pedagogy and educational technologies in higher education	3	Exam
MC 4.	Industrial (scientific and pedagogical) practice	5	Credit
MC 5.	Scientific research methodology	6	Credit Exam
MC 6.	Biomedical statistics	3	Credit
MC 7.	Modern directions of scientific research in medicine, adherence to the basic principles of bioethics and academic integrity in scientific activities	5	Exam
MC 8.	Modern principles of organizing the healthcare system	3	Credit
The total volume of compulsory disciplines		**37**	
Optional components of the ESP **(Five disciplines are selected from the catalog of professional optional disciplines of the ESP faculty MEDICINE with a total volume of ____15__ ECTS** **https://docs.google.com/document/d/1KvCT9lXvyjsWOO4Bev5eDx3fGffwo300/edit**			
SC 1.	Gerontology in general practice	3	Exam
SC 2.	Extragenital pathology	3	Exam
SC 3.	Emergencies in general practice	3	Exam
SC 4.	Practical allergology	3	Exam
SC 5.	Diagnostic criteria for leading ECG syndromes and phenomena in cardiology.	3	Exam
SC 6.	Rational antibacterial therapy in the clinic of internal medicine	3	Exam
SC 7.	Current issues in clinical diabetology	3	Exam

SC 8.	Some aspects of extragenital pathology in pregnant women in the practice of a general practitioner	3	Exam
SC 9.	The impact of pharmacotherapy on the cardiovascular system in the treatment of non-cardiac diseases	3	Exam
SC 10.	Hemostasis and transfusion medicine in anesthesiology and intensive care	3	Exam
SC 11.	Pain management	3	Exam
SC 12.	Intensive care for critical conditions	3	Exam
SC 13.	Anesthesia in patients with severe comorbidities.	3	Exam
SC 14.	Individualization of anesthesia protocols based on pharmacogenetics and physiological parameters of the patient.	3	Exam
SC 15.	Vaccination against pandemics.	3	Exam
SC 16.	Epidemiology, clinical manifestations, diagnosis and treatment of blood-borne infections.	3	Exam
SC 17.	Epidemiology, clinical manifestations, diagnosis and treatment of transmissible infections.	3	Exam
SC 18.	Epidemiology, clinical manifestations, diagnosis and treatment of intestinal and respiratory infections.	3	Exam
SC 19.	New approaches to immunotherapy of infectious diseases.	3	Exam
SC 20.	Immunology of autoimmune diseases: the relationship between chronic infections and the development of autoimmune diseases	3	Exam
SC 21.	Primary and secondary immunodeficiencies: clinical manifestations, diagnosis, treatment.	3	Exam
SC 22.	Immunology of transfusion medicine.	3	Exam
SC 23.	Mechanisms of immune response formation to infectious pathogens.	3	Exam
SC 24.	Modern methods of verifying immune status.	3	Exam
SC 25.	Psychosomatic aspects of allergic diseases.	3	Exam
SC 26.	Mechanisms of allergic reactions: types and pathophysiology.	3	Exam
SC 27.	Clinical manifestations of allergic diseases.	3	Exam
SC 28.	The connection between climate change and increased levels of allergic diseases.	3	Exam

SC 29.	Modern methods of diagnosing allergies.	3	Exam
SC 30.	Emergencies in cardiology.	3	Exam
SC 31.	Cardio-oncology.	3	Exam
SC 32.	Non-coronary myocardial diseases.	3	Exam
SC 33.	Fundamentals of cardiac ultrasound in cardiology.	3	Exam
SC 34.	Functional research methods in cardiology.	3	Exam
SC 35.	Pain syndromes in neurology. Modern principles of diagnosis and treatment	3	Exam
SC 36.	Child psychiatry	3	Exam
SC 37.	Psychiatric emergencies	3	Exam
SC 38.	Narcology emergencies	3	Exam
SC 39.	Neurology emergencies	3	Exam
SC 40.	Substance use disorders and other addictions	3	Exam
SC 41.	Sexology and sexual pathology	3	Exam
SC 42.	Modern standards for the diagnosis and treatment of neurological diseases approved in Ukraine	3	Exam
SC 43.	Acute and chronic cerebrovascular diseases (diagnosis, treatment, prevention)	3	Exam
SC 44.	Traumatic brain injury and its consequences (diagnosis, treatment, prevention)	3	Exam
SC 45.	Growth psychiatry	3	Exam
SC 46.	Latest directions of scientific research in oncology.	3	Exam
SC 47.	Modern approaches to the treatment of cancer patients.	3	Exam
SC 48.	Algorithms for providing emergency care in oncology.	3	Exam
SC 49.	Current issues in oncology.	3	Exam
SC 50.	Features of treatment of cancer patients.	3	Exam
SC 51.	Current methods of radionuclide diagnostics.	3	Exam
SC 52.	Modern methods of radionuclide therapy of oncological and non-oncological diseases.	3	Exam
SC 53.	Radiation safety in modern conditions.	3	Exam
SC 54.	Diagnostics and medical correction of complications of radiotherapy in oncological patients.	3	Exam

SC 55.	Current issues of treatment of bone metastases in oncological patients.	3	Exam
SC 56.	Audiology and modern methods of correction of hearing loss and deafness.	3	Exam
SC 57.	Endoscopic technologies in the diagnosis and surgical treatment of diseases of the nose and larynx.	3	Exam
SC 58.	Neurootology and vestibular disorders.	3	Exam
SC 59.	Interdisciplinary approach to the treatment of head diseases.	3	Exam
SC 60.	An interdisciplinary approach to the treatment of neck diseases.	3	Exam
SC 61.	Combat trauma of the eyeball in modern conditions.	3	Exam
SC 62.	Immersion in neuro-ophthalmology.	3	Exam
SC 63.	Modern views on diseases of the choroid of the eye.	3	Exam
SC 64.	Current methods of examination of a patient with glaucoma at the modern level.	3	Exam
SC 65.	Modern aspects of the use of anti-VEGF therapy in ophthalmology.	3	Exam
SC 66.	Morphological aspects of human congenital malformations	3	Exam
SC 67.	Pathological anatomy in clinical diagnosis: from biopsy to section	3	Exam
SC 68.	Pathomorphological changes in intestinal infectious diseases: from clinic to microscopy	3	Exam
SC 69.	Cardiovascular system: pathomorphological aspects	3	Exam
SC 70.	Skin from normal to pathology: histological aspects and pathological processes during the development of diseases	3	Exam
SC 71.	Management of cardiovascular diseases in childhood.	3	Exam
SC 72.	Comorbid pathology in diseases of the digestive system in childhood.	3	Exam
SC 73.	Implementation of the theory of the autoinflammatory-autoimmune continuum in pediatric rheumatology.	3	Exam
SC 74.	The problem of the transition of children with chronic somatic diseases to the adult health service.	3	Exam

SC 75.	Features of the course of puberty and monitoring the health of adolescents	3	Exam
SC 76.	Fundamentals of physical therapy and rehabilitation medicine.	3	Exam
SC 77.	Physical and rehabilitation medicine in orthopedics and traumatology.	3	Exam
SC 78.	Physical and rehabilitation medicine of internal diseases.	3	Exam
SC 79.	Clinical arrhythmology.	3	Exam
SC 80.	Imaging methods in the diagnosis of internal organs.	3	Exam
SC 81.	Minimally invasive methods of treatment of complicated forms of gallstone disease	3	Exam
SC 82.	Laparoscopic technologies in abdominal surgery	3	Exam
SC 83.	Anastomoses in abdominal surgery (specificities of formation, prevention of postoperative complications)	3	Exam
SC 84.	Modern methods of treatment of diseases of the veins of the lower extremities using minimally invasive technologies	3	Exam
SC 85.	Rehabilitative treatment of patients with deforming osteoarthritis of the hip and knee joints	3	Exam
SC 86.	Postoperative rehabilitation in orthopedics and traumatology	3	Exam
SC 87.	Minimally invasive discectomy of herniated intervertebral discs of the lumbar spine	3	Exam
SC 88.	Diagnosis and basic principles of treatment of plantar fasciitis	3	Exam
SC 89.	Modern minimally invasive technologies for the treatment of infected wounds	3	Exam
The total volume of selective disciplines		**15**	
GENERAL SCOPE OF THE EDUCATIONAL PROGRAM		**52**	

2.2. The scientific component of the National Academy of Sciences is a Doctor of Philosophy

The system of research work of applicants is an integral part of the training of highly qualified specialists who are able to independently conduct scientific research and creatively solve specific professional, scientific and clinical tasks. The research work of the applicant is carried out under the control of the scientific supervisor, it can be conventionally divided into preparatory and main stages and includes the following types of activities.

At the preparatory stage, the applicant:

1. chooses a topic of scientific research and justifies the relevance of the chosen research topic. Reviews catalogs of defended dissertations and familiarizes him/herself with dissertation works

already completed at the department; processes the latest research results in selected and related fields of science; familiarizes with analytical reviews and articles in specialized publications, conducts consultations with specialists in order to identify little-studied scientific problems and issues that are relevant; studies and analyzes the main approaches and positions of scientific schools and directions in solving the researched problem; clarifies terminology in the chosen field of knowledge; performs a patent search of literary sources on the selected topic. Formulates a scientific problem.
2. takes measures to plan the dissertation work, formulates the applicant's individual educational and scientific plan.
3. clarifies the setting of the goals and objectives of the dissertation work, the object and subject of scientific research.
4. selects and justifies the methods (methodology) of research.
5. makes a description of the process of scientific research (research design) in the dissertation work by forming a plan-prospectus, which is an abstract statement of issues and methods of solving them, according to which all collected factual material will be systematized in the future.
At the main stage of the implementation of scientific and research work, the applicant:
1. conducts scientific and research work in accordance with the profile of the National Academy of Sciences for training doctors of philosophy using knowledge of fundamental and applied disciplines taught in the program. Scientific work is carried out on the implementation of the theoretical and practical part of the research.
2. analyzes and summarizes the results of scientific research on the basis of modern approaches, interdisciplinary knowledge, the application of scientific methodological principles and methodical methods of research, the use of thematic information resources in the research, leading domestic and foreign experience on the chosen topic.

3. appraises the results of scientific research by participating in scientific conferences (with the publication of report abstracts): in international and foreign conferences; in all-Ukrainian conferences; in regional and interuniversity conferences, in scientific seminars of the department and faculty; participates in contests for applications for funding of scientific works and in contests of scientific works.
4. is involved in the implementation of state budget and/or farm contract topics within the framework of state, intercollegiate or university programs, as well as individual plans of the department.
5. is engaged in conducting research and preparing a dissertation, formulating conclusions and practical recommendations in accordance with the results of the dissertation.
6. evaluates the obtained results, which are discussed at the meeting of the department, and then at the scientific seminar of the faculty.
7. passes a preliminary examination of the dissertation at the department with the involvement of at least 3 experts on the topic of the dissertation
8. prepares the text of the dissertation
9. provides the developments obtained in the dissertation research for practical use and implementation of the results in the activities of medical and preventive institutions, research and academic institutions, for which certificates of implementation are received.
10. defends the dissertation in a specialized academic council.
Research work is considered completed if:
- the dissertation research contains scientific novelty, is relevant, has practical significance, the text of which has passed the examination through the plagiarism check program; the dissertation is recommended by the department for defense;
- available approval of the results of the dissertation research, where at least 3 publications of theses fully meets the requirements of the Procedure for awarding the degree of Doctor of Philosophy and canceling the decision of the one-time specialized academic council of the institution of higher education, scientific institution on awarding the degree of Doctor of Philosophy, approved by the resolution of the Cabinet of Ministers of Ukraine dated 12.01 .2022 No. 44;

- the dissertation has the volume of the main text of at least 4.5 author's pages and fully meets the requirements of clauses 5-8 of the Procedure for awarding the degree of Doctor of Philosophy and annulment of the decision of the one-time specialized academic council of the institution of higher education, scientific institution on awarding the degree of Doctor of Philosophy, approved by resolution Cabinet of Ministers of Ukraine dated 12.01.2022 No. 44 and Requirements for the preparation of a dissertation, approved by order of the Ministry of Education and Culture of Ukraine dated 12.01.2017 No. 40.

3. Structural and logical scheme of the educational and scientific program

Code n/a	Components of the educational program (educational subjects, course projects (works), practices, qualification work)	Number of credits	Distribution by semesters							
1	2	3	4							
Mandatory components			1	2	3	4	5	6	7	8
1	Foreign language for post graduate students	8	*	*						
2	Philosophical principles and methodology of scientific research	5	*							
3	Methodology of scientific research	6		*	*					
4	Medical and biological statistics	3	*							
5	Modern directions of scientific research in medicine, compliance with the basic principles of bioethics and academic integrity in scientific activity	5			*					
6	Modern principles of the organization of the health care system	3					*			
1	2	3	4							
7	Pedagogy of higher education	5					*			
8	Pedagogical practice	5						*		
	Selective components		1	2	3	4	5	6	7	8
1	Pathological anatomy, modern state of development	14			*	*	*			
2	Internal medicine, modern state of development	14			*	*	*			
3	Modern aspects of surgical diseases	14			*	*	*			
4	Psychiatry, modern state of development	14			*	*	*			
5	Modern aspects of infectious diseases	14			*	*	*			
6	Modern aspects of clinical immunology	14			*	*	*			
7	Cardiology, modern state of development	14			*	*	*			
8	Anesthesiology and intensive care, modern state of development	14			*	*	*			
9	Nervous diseases, modern state of development	14			*	*	*			
10	Oncology, modern state of development	14			*	*	*			
11	Radiology, modern state of development	14			*	*	*			
12	Traumatology and orthopedics, modern state of development	14			*	*	*			
13	Modern aspects of clinical allergology	14			*	*	*			
14	Modern aspects of obstetrics and gynecology	14			*	*	*			
15	Modern aspects of otorhinolaryngology	14			*	*	*			
16	Formation of chronic somatic pathology in the age aspect	14			*	*	*			
17	Modern scientific trends in ophthalmology	14			*	*	*			
18	Physical and Rehabilitation Medicine	14			*	*	*			
	Scientific research work		*	*	*	*	*	*	*	
	Defense of the dissertation									*

4. Form of attestation of applicants of higher education

In the process of training doctors of philosophy, two forms of attestation are used: intermediate and final.

The purpose of the intermediate attestation is to control the implementation of the individual plan of the applicant for all components provided for in the curriculum. Intermediate attestation includes:

- attestation of the theoretical part, which involves taking tests (credits) and exams in accordance with the curriculum in order to establish the actual compliance of the level of theoretical training with the requirements of the general and professional competencies of the applicants;

- the research part, in accordance with the initial plan, provides for the current attestation of applicants once a year. The purpose of the intermediate attestation is to control the implementation of the individual plan of scientific research and compliance with the schedule of preparation of the results of scientific research work.

The final attestation of the applicant of the third (educational and scientific) level of higher education in the specialty 222 "Medicine" is carried out in the form of a public defense of the dissertation in accordance with the Procedure for awarding the degree of Doctor of Philosophy and annulment of the decision of the one-time specialized academic council of the institution of higher education, scientific institution on awarding the degree of Doctor of Philosophy , approved by the resolution of the Cabinet of Ministers of Ukraine dated 12.01.2022 No. 44 and ends with the provision of a document of the established model on awarding him/her the degree of Doctor of Philosophy in the specialty 222 Medicine, field of knowledge 22 Health care.

The violation of the deadlines for the implementation of an individual plan of educational and scientific work without valid reasons provided for by law may be the basis for the adoption by the Academic Council of V.N. Karazin KhNU of the awardee's expulsion.

5. Matrix of correspondence of program competences components of the educational and scientific program

Software marks competencies and educational components	MC 1	MC 2	MC 3	MC 4	MC 5	MC 6	MC 7	MC 8	SC 1 – SC 89
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
IC		+	+		+	+			+
GC 1			+		+		+	+	+
GC 2	+		+	+	+	+	+		+
GC 3					+	+	+		+
GC 4		+	+		+	+			
GC 5	+	+	+			+	+		+
GC 6		+	+	+	+	+	+	+	
PC 1									+
PC 2		+	+	+	+				+
PC 3		+	+		+				+
PC 4			+	+	+				+
PC 5					+				+
PC 6			+	+					+
PC 7		+				+	+	+	+
PC 8			+				+		+
PC 9	+						+	+	+
PC 10		+				+	+	+	
PC 11		+	+		+	+	+	+	+
RC 1		+		+	+				+
RC 2		+			+				+
RC 3	+				+				+

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
RC 4		+							+
RC 5			+		+				+
RC 6		+			+				
RC 7	+		+	+					+
RC 8	+		+	+					
RC 9	+		+		+				+
RC 10		+	+		+		+		
RC 11					+				+
CC 1	+		+			+	+	+	
CC 2			+				+		
CC 3	+		+				+	+	
CC 4	+		+			+	+	+	+
CC 5	+		+			+		+	+
CC 6	+		+			+	+	+	+
CC 7		+	+		+		+	+	+
CC 8		+	+			+	+	+	+
CC 9		+	+	+		+	+		+
CC 10		+	+	+		+			+
MC 1	+	+	+			+	+	+	+
MC 2				+		+			+
MC 3				+		+		+	+
MC 4		+			+				+
SPC 1		+					+	+	
SPC 2		+					+	+	+
SPC 3		+					+	+	
EC 1	+			+	+	+			
EC 2	+			+	+	+			
EC 3	+	+							+
SPC 1		+							+
SPC 2					+				+
SPC 3							+	+	+

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
SPC 4					+				+
SPC 5					+				+
SPC 6					+				+
SPC 7		+		+	+				+
SPC 8		+		+	+				+

Notes:

1. MC n is a certain mandatory component of the educational program according to section 2.1;
2. IC - integral competence according to section 1.6 of the profile of the educational program;
3. GC n – general competence according to section 1.6 of the profile of the educational program;
4. PC n – professional competence according to section 1.6 of the profile of the educational program;
5. RC n – research competence according to section 1.6 of the profile of the educational program;
6. CC n – communicative competence according to section 1.6 of the profile of the educational program;
7. MC n – managerial competence according to section 1.6 of the profile of the educational program;
8. SPC n – scientific and pedagogical competence according to section 1.6 of the profile of the educational program;
9. EC n – ethical competence according to section 1.6 of the profile of the educational program;
10. SPC n – special professional competence according to section 1.6 of the profile of the educational program;
11. + is a mark that means that a certain program competence is provided by a certain educational component of the current line.

6. Matrix of provision of program learning outcomes (PRN) relevant components of the educational program

Software marks competencies and educational components	MC 1	MC 2	MC 3	MC 4	MC 5	MC 6	MC 7	MC 8	SC 1 – SC 89
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		+		+	+		+	+	+

Note:
1. PLO k – a specific learning result according to section 1.7 of the profile of the educational program;
2. + is a sign that means that a certain program result is provided by the educational component of the current line.