

091 BIOLOGY
educational-professional program of the third level of higher education
field of knowledge 09 "Biology"
Qualification: Doctor of Philosophy



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Branch of Knowledge	09 Biology
Specialty	091 Biology
Program volume	43 ECTS credits
Program duration	4 years
Mode of study	full-time/evening-time/part-time

The educational-professional program "Biology" is aimed at provision of the academic education in basic and medical-biological disciplines, and training of graduates for professional activities in the field of biology, namely: research, teaching, informational and educational.

Details of the educational-professional program

The program is focused on the provision of the research competencies in the field of biology, including modern scientific areas of biological research, experimental biology, validation of methods in the biological experiment, researches in nanopharmacology, nanotoxicology, phytopharmacology, phytotherapy, biological studies of metabolic drugs and toxicology, organization and realization of preclinical studies of medicines and substances.

The high level of training is provided by a powerful scientific and academic school of pharmacy and long-term experience, developed international cooperation in the scientific and educational spheres, and availability of the specialized laboratories.

Specialists who are involved in the scientific training, underwent internship at the leading European universities, have international experience in educational and scientific activities.

Program components

№	Name of the discipline
Compulsory disciplines	
1.	Philosophy of Science
2.	English Language for Scientific Communication
3.	Methodology and Methods of Scientific Analysis
4.	Modern IT Technologies in Scientific Activity
5.	Academic Integrity
6.	Pedagogy of Higher Education with Pedagogical Practice
7.	Current State of Scientific Knowledge in Biology
Elective disciplines	

8.	Rhetoric
9.	Professional Psychology
10.	Human Resources
Professionally oriented disciplines	
11.	Organization and Conduction of Pre-Clinical Studies, GLP Requirements
12.	Scientific Fundamentals in Experimental Biology
13.	Genetics of Behavior and Pharmacogenetics
14.	Modern Parasitoids
15.	Modern Approaches to Phytopharmacology and Phytotherapy
16.	Validation of Methods in Biological Experiment
17.	Scientific Approaches to Research in Nanopharmacology and Nanotoxicology
18.	Modern Approaches to Biological Research of Metabolic Drugs
19.	Modern Scientific Directions of Biological Research in Toxicology
TOTAL VOLUME OF THE EDUCATIONAL PROGRAM	
	43

Employment and competitive advantages of graduates

A specialist trained to work under the КБЕД ДК 009:2010:

Section M - Professional, scientific and technical activities

Section 72 Scientific research and developments

Group 72.1 Research and experimental developments in the field of natural and technical sciences

Class 72.11 Research and experimental developments in the field of biotechnology

Class 72.19 Research and experimental developments in the field of other natural and technical sciences

Section 74 Other professional, scientific and technical activities

Group 74.9 Other professional, scientific and technical activities

Class 74.90 Other professional, scientific and technical activities

Section P - Education

Section 85 - Education

Group 85.4 - Higher education

Class 85.41 - Professional-technical education at the level of the higher professional-technical education institution

Class 85.42 - Higher education

Upon completion of the educational-scientific program, a specialist is able to perform professional work:

- teacher of universities and higher education institutions (KII code – 2310);

- Associate Professor and Professor (KII code – 2310.1);

- another teacher of universities and higher education institutions (KII code – 2310.2);

- research scientist (biology) (KII code – 2211.1);

- research scientist (pathology, toxicology, pharmacology, physiology, epidemiology)

(KII code – 2212.1).

The Doctor of Philosophy can work in institutions and organizations of the biological profile, different types of research laboratories (medical, biochemical, genetic,

pharmacological), diagnostic laboratories and centers, laboratories for pre-clinical study of medicinal compounds and drugs, in research institutes, higher education institutions and branch agencies of different departments, performing professional functions in accordance with official duties.

Program learning outcomes

1. To possess conceptual and methodological knowledge in the field of biological sciences and to be able to apply it in the professional activity in solving research and practical problems.

2. To be able to design and carry out integrated research, including interdisciplinary, on the basis of a holistic systemic scientific outlook using knowledge in the field of philosophy of scientific knowledge.

3. To plan and practically realize an original independent scientific research, which has scientific novelty, theoretical and practical value and promotes solution of significant social or scientific problems.

4. To use modern information sources of the national and international level to assess the state of knowledge of the research object and the relevance of the scientific problem.

5. To be able to formulate scientific hypotheses, purpose and tasks of the scientific research.

6. To be able to create a design and a plan for scientific research.

7. To be able to perform an original scientific research.

8. To be able to analyze, systematize and interpret the results of scientific research, using statistical methods of data processing.

9. To be able to explain the principles, specificity and sensitivity of the research methods, informativeness of the selected indicators.

10. To be able to integrate existing methods and methods of research and adapt them for solving scientific problems during dissertation researches.

11. To be able to interpret and analyze information using the latest information technologies.

12. To possess the skills of oral and written presentation of the results of scientific research in the form of reports, publications, presentations, poster reports, etc. in national and foreign languages.

13. To adhere to ethical standards, to take into account copyright and norms of academic integrity in conducting scientific researches, presentations of their results and in scientific and pedagogical activity.

14. To have communicative skills at the level of free communication in the professional environment and in the public sphere, including other languages, with regard to biological problems.

15. To implement the results of scientific research into educational process, practice and society.

16. To coordinate the work of a research group, be able to organize collective work (students, colleagues, interdisciplinary team).

17. To organize the educational process, evaluate its effectiveness, recommend ways to improve the educational process.