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Problems and prospects of training doctors of philosophy in biology: the Kyiv Polytechnic experience

The purpose of the "Applied Biology" educational program is to train a professional capable of solving complex problems in the field of applied biology and biotechnology, which involves a deep rethinking of existing and formulation of new competencies regarding the principles of modification of natural and creation of artificial biological systems, as well as regulatory mechanisms in biological systems, and to carry out scientific and innovative and scientific and pedagogical activity. The uniqueness of the program lies in its interdisciplinary nature (focusing mainly on modern problems of biochemistry, cytology and molecular biology) and orientation on scientific and practical results (development of the latest biotechnologies, biological preparations, biological testing methods, etc.). The features of the program are also addressed to taking into account the philosophy of sustainable development of society when forming the professional worldview of the applicants, as well as promoting the development of the human potential of the applicants both through mastering the relevant educational components and through joining the democratic traditions (practices) of the university.

The most powerful promoter of biological research and development in the world and in Ukraine is the needs (problems) of health care. A significant part of the scientific institutions of our country with a biological profile are focused precisely on medical and biological issues. There are many business structures in Ukraine that use advanced biological technologies to solve health care problems (diagnosis, prevention and treatment of human and animal diseases). The concentration of such institutions in developed countries is even greater. The greatest demand of R&D institutions is observed precisely for applied scientists to carry out developments suitable for rapid implementation (commercialization). For our country, this circumstance is particularly pronounced due to the lack of funding for fundamental research.

When designing the program, an analysis of domestic and foreign programs of the appropriate level was carried out. Applied biology programs are widely represented in the EU and the USA. Domestic programs in biology are mostly represented by programs focused on fundamental biological research and training of relevant specialists. Thus, when designing our program, we mostly used the experience of foreign universities that implement programs in applied biology (Applied Biology and Biotechnology, Royal Melbourne Institute of Technology, Australia; Applied Biology, University of Massachusetts Lowell, USA; Experimental and Applied Biology, University of Alicante, Spain; Environmental Sci-

ences and Applied Biology, Estonian University of Life Sciences; Integrated Biology, The University of Iowa, USA; Biosystems Engineering, The University of Tennessee, USA). The competitiveness of the program is determined by: substantive uniqueness; focus on the most popular biological methods and technologies; the formation of programs, which provide the possibility for a scientist to perform a wide range of tasks in biochemistry, cytology, and molecular biology.