

**EDUCATIONAL PROGRAM PASSPORT
LEVEL DOCTORATURE
«8D015- Training of teachers in natural science subjects»**

The abbreviated name of the cycles of disciplines	Name of disciplines and their main sections	Trudeau-tank total loans (ECTS)
<i>CW</i>	COMPONENT WYBO (CW)	
<i>1</i>	pedagogical practice	
	Ability of practical application of acquired knowledge and skills in the process of training	5
<i>CS</i>	COMPONENT SELECTION (CS)	
<i>1</i>	Methodology of teaching physics and modern scientific technologies	
	The data on the need to make changes in the methodology of teaching physics due to the rapid development of science and technology. The questions related to the methods of teaching physics are considered. The review of modern scientific technologies used in teaching physics is given and their necessity is described. The ways of application of modern scientific technologies in teaching physics are shown.	5
	Modern trends in physics education in high school	
	The discipline "Modern Trends in Physics Education at School" is aimed at providing doctoral students with methodological training in physics education at school and university, also for independent activity in the field of physics. The main components of the methodological system of teaching physics at school.	
<i>2</i>	Modern content of physical education	
	The study of the modern content of physical education, arming future specialists with the basics of modern theory of methodology, contributes to the formation of practical skills necessary in the organization of the pedagogical process. In the study of this discipline is the analysis of the content of modern physical education.	5
	The scientific basis of the school course physics	
	Methods of teaching physics in high school. Physics and science as a subject in high school. The purpose and objectives of methods of teaching physics. Features of the updated content of secondary education. Constructive learning. Critical thinking, reflection. Active learning methods. The planning of the educational process. Criteria evaluation.	
<i>3</i>	Methods of teaching physical fundamentals of nanotechnology	
	In this discipline, we study the success of nanotechnology and methods for the study of nanostructured materials, as	5

	well as their physical foundations. The application of nanotechnology in various fields of production and medicine is considered. The use of nanotechnology for the study of interdisciplinary communication of natural Sciences.	
	Scientific and pedagogical aspects and methodical system of teaching informatics	
	Concepts of education, training, education and development, pedagogical system, pedagogical design, pedagogical technologies, pedagogical equipment. Pedagogical specialties with the award of the degree. The main methodological features of the thesis of pedagogical studies. Methodical system of training. Organization of the research process. Forms and methods of training. Pedagogical diagnostics.	
4	Research practice	
	The research practice of the doctoral student is carried out in order to study the latest theoretical, methodological and technological achievements of domestic and foreign science, as well as to consolidate practical skills, the use of modern methods of scientific research, processing and interpretation of experimental data in the dissertation research.	18