

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE REPUBLIC OF KAZAKHSTAN

KAZAKH NATIONAL PEDAGOGICAL UNIVERSITY NAMED AFTER ABAI



We train teachers who are able to anticipate the needs of modern education, based on advanced methods, national heritage and global approaches. We are increasing the prestige of the teaching profession and becoming a driver of human capital development.

EDUCATIONAL PROGRAM

8D01504-Physics

Department of "Methods of teaching Mathematics, Physics and Computer Science"

Data on disciplines

№	Name of discipline	Short description of discipline	Cycle	Component	Credits
1	Academic writing	Acquiring skills in academic writing, enabling graduates to perform professional tasks related to information retrieval from scientific databases, text analysis, summarization, and working with various genres of academic writing to support or refute concepts and arguments. This also includes the ability to properly cite and format a bibliography, as well as conduct stylistic analysis of scientific and technical works in a concise and accessible manner.	BD	UC	5
2	Methods of scientific research	Goal: to develop scientific research skills. Content: Methodology, stages, conceptual framework and classification of scientific research. Private and special methods, errors of scientific research. Planning of scientific research work. Collecting scientific information. Ethics of scientific research. Structure of scientific research work. Analytical methods and tools for evaluating scientific research: organization and management of scientific research using information technologies and resources. Competencies: skills of preparation of scientific articles, doctoral dissertation.	BD	UC	5
3	Methodology of teaching physics and modern innovative technologies	Purpose: the discussion of methodological problems of modern physical science, as well as the design of a new educational content of the subject is carried out with the involvement of innovative technologies. Content: Use of digital and electronic educational resources in the study of physics in different classes and in secondary vocational education institutions. Formed competencies: - apply modern scientific technologies in teaching physics.	PD	UC	5
4	Methods of teaching the physical foundations of nanotechnology	Goal: to introduce doctoral students to modern experimental methods of nanotechnology. Content: the progress of nanotechnologies and methods of research of nanostructured materials are studied. The application of nanotechnology in various fields of production and medicine is considered. The use of nanotechnology for the study of intersubject communication of natural science disciplines. Competencies: sets the problem, goal and task of the study, taking into account specific physical conditions.	PD	UC	5
5	Modern content of physical education	Goal: To analyze the structural elements and methods of studying physical knowledge. Content: the study of the modern content of physical education, equipping future specialists with the basics of modern theory of methodology, contributes to the formation of practical skills and skills necessary for the organization of the pedagogical process. When studying the discipline, the content of modern physical education is analyzed. Competencies: describes the methodology of teaching specific topics of physics.	PD	UC	5