Bachelor Degree Programme: Physics (60530900)

Programme Educational Objectives

The Bachelor Degree Programme in Physics aims to prepare highly qualified specialists with fundamental knowledge of classical and modern physics and practical skills required for solving scientific, engineering and applied problems. The objectives of the educational program are:

- preparing graduates for professional activities in the field of fundamental and applied physical research, engineering and educational tasks related to the application of physical laws and methods;
- to satisfy the needs of scientific institutions, the educational system, the manufacturing sector and high-tech sectors of the economy for qualified personnel with a physics education;
- to create conditions for the development of students' sustainable skills in independent learning, analytical thinking, and readiness for professional and academic growth, including continuing their education in a master's degree program;
- To develop in graduates competencies that ensure their social and professional mobility, competitiveness in the labor market, and also contribute to the development of personal qualities such as responsibility, communication skills, the ability to work in a team, a desire for innovation, ethics, and civic responsibility.

Intended Learning Outcomes (Programme Learning Outcomes)

Upon successful completion of the Bachelor Degree Programme in Physics, graduates will be able to:

LO1: Demonstrate a strong knowledge of classical and modern physics, including mechanics, electrodynamics, quantum mechanics, thermodynamics and statistical physics;

LO2: Understand the mathematical methods and computer technologies used in physics and be able to apply them to solve physics problems;

LO3: Have an understanding of modern areas of physical research and their role in the scientific and technological development of society;

LO4: Conduct physical experiments, process and interpret the obtained data using modern software;

LO5: Develop simple physical models and conduct numerical simulations of physical processes;

LO6: Possesses basic skills in working with measuring and laboratory equipment and observes safety precautions

LO7: Formulate physical problems, build logical reasoning and make scientifically based conclusions;

LO8: Work with scientific literature, critically analyze sources, participate in scientific research;

LO9: Integrate interdisciplinary knowledge to solve applied problems.

LO10: Express physical ideas clearly and logically, both orally and in writing, including in a foreign language;

LO11: Work in a team, take responsibility and demonstrate initiative in professional activities;

LO12: Demonstrate a commitment to scientific ethics, integrity, and sustainability".