

**PHYSICS**  
**ANNOTATION**  
**TO THE TRAINING PROGRAM OF THE INSTITUTION OF HIGHER EDUCATION**

**Specialty** 1-53 01 01 – Автоматизация технологических процессов и производств» (по направлениям)

**Direction of specialty** \_\_\_\_\_

**Specialization** \_\_\_\_\_

	Form of higher education
	Full-time (daytime)
Course	1, 2
Semester	2, 3, 4
Lectures, hours	102
Practical classes, hours	48
Laboratory classes, hours	84
Exam, semester	2, 3, 4
Classroom hours per academic discipline	234
Self-training, hours	210
Total hours per discipline / credit units	444/12

The purpose of the academic discipline is to provide the future engineer with the basis of his theoretical training in various fields of physical science, which allows him to navigate in scientific and technical information and form a materialistic worldview and the scientific method of cognition.

As a result of studying the academic discipline, the student must

**know:** the basic laws and theories of classical and modern physical science, as well as the limits of their applicability; methods for measuring the physical characteristics of substances and fields; physical foundations of methods for studying substances; principles of experimental and theoretical study of physical phenomena and processes;

**be able to:** apply the laws of physics to solve applied engineering problems; use the main measuring instruments in the experimental study of physical and technological processes;

**own:** methods of physical modeling of technical processes; methods of analysis and solution of applied engineering problems.

Competency codes to be formed	The name of the competencies being formed
БПК-1	Own the basic concepts and laws of physics, the principles of theoretical and experimental analysis of physical phenomena and processes that take place during the processing and hardening of metals.

To assess the formation of competencies, current and intermediate attestations are used. The current attestation includes the following forms: solving problem in practical classes, written reports on laboratory work with their oral defense, tests for each module. At the same time, the understanding of the material covered, skills in working with measuring instruments, the ability to obtain and correctly evaluate experimental results are evaluated.

Intermediate attestation (exam) is carried out in two stages. The first stage includes a written answer to questions that are a random sample of questions submitted for the exam and one task. The second stage consists in a brief conversation with the student on the fundamental issues of the course.