

PHYSICS
COURSE SYLLABUS ABSTRACT

Specialty 1-36 01 04 “Equipment and technologies for high-performance material processing processes”

	Form of higher education
	Full-time (daytime)
Course	1,2
Semester	2,3
Lectures, hours	68
Practical (seminar) classes, hours	32
Laboratory classes, hours	68
Exam, semester	2, 3
Class hours in the academic discipline	168(2)
Independent work, hours	72
Total hours per academic discipline / credit units	240/6

1. Course outline: The purpose of the 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 the flow of scientific and technical information and the formation of a materialistic worldview and the scientific method of cognition.

2. Course learning outcomes: As a result of mastering the academic discipline, the student should 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 measuring instruments in the experimental study of physical and technological processes; process and analyze the results of experimental measurements of physical quantities; own: methods of physical modeling of technical processes; methods of analysis and solution of applied engineering problems.

3. Competencies: BPC-2 Apply knowledge of natural science academic disciplines for experimental and theoretical study, analysis and solution of applied engineering problems

4. Requirements and forms of midcourse evaluation and summative assessment: Assessment of the level of knowledge of students is carried out by using various means of diagnosing competencies. These are the means of current diagnostics: written test questions on theory (twice a semester), written tests on solving problems, reports on laboratory work with their oral defense. Intermediate attestation (exam) is carried out in two stages. The first stage includes a written answer to questions, which are a selection of questions submitted for the exam, and one problem. The second stage consists of a brief conversation with the student on the fundamental issues of the course.