PHYSICS OF ELECTRONIC DEVICES
ANNOTATION
TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

Specialty _1-54 01 02 - Methods and instruments for quality control and diagnostics of the state of objects
Direction of specialty _____
Specialization_____

	Form of higher education
	Full-time (daytime)
Well	2
Semester	4
Lectures, hours	34
Practical lessons, hours	16
Laboratory classes, hours	16
Test, semester	4
Classroom hours per academic discipline	66
Independent work, hours	42
Total hours per discipline / credits	108/3

The purpose of the discipline is the formation of basic knowledge about the physical foundations of the functioning of electronic devices and elements of microelectronics; acquisition of skills in practical calculations of the physical parameters of semiconductor materials and the characteristics of physical phenomena underlying the principle of operation of electronic and quantum devices.

As a result of mastering the academic discipline, the student must **know**: the basic properties of the electromagnetic field in matter; basic concepts of quantum mechanics, statistical physics and physics of solids and microelectronics elements; physical phenomena underlying the principle of operation of electronic and quantum devices; current state and development trends of electronics; **be able to**: write down and solve the wave equation, the Schrödinger equation; to use the basic phenomena of solid state physics in the analysis of the functioning of radio-electronic means; conduct research on the simplest characteristics and parameters of physical phenomena that underlie the principle of operation of electronic devices; work with control and measuring equipment used to study the electrical properties of various media. possess: the skills of modeling physical phenomena and experimental study of the characteristics of semiconductor materials; skills in working with technical literature, reference books, standards, technical documentation on electronic devices.

Codes of generated competencies	Names of competencies being formed
BPC-12	Be able to use the theoretical principles of solid state physics in the analysis of the characteristics of electronic devices.

The overall assessment of the knowledge, skills and abilities of students is to analyze their work when they perform various types of classes. When students carry out measurements, during laboratory work, the skills of working with measuring instruments are evaluated, and when they perform practical tasks, their modeling skills are evaluated. Intermediate attestation (test) is carried out in one stage. The stage includes a written answer to the questions, which are a random sample of the questions submitted for credit.