PHYSICS
ANNOTATION
FOR THE CURRICULUM OF HIGHER EDUCATION INSTITUTION

Specialty _1-40 05 01 – Information systems and technologies
Direction of specialty _____
Specialization_____

	Higher education form	
	Full-time	Correspondence education(intensive course)
Course	1	1
Semester	2	1
Lectures, hours	50	8
Practical (seminar) training, hours	16	-
Laboratory training, hours	16	6
Classroom control work (semester, hours)		1(2)
Exam, semester	2	1
Classroom hours for the academic discipline (including hours for managed independent work)	82(2)	16
Independent work, hours	106	172
Total hours for academic discipline/ credit units	188/5,5	188/5,5

1. The purpose of the discipline:
providing 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. As a result of mastering the academic discipline, the student must:
know: basic concepts, laws and physical models of electricity and magnetism, optics and electrodynamics; the latest achievements in the field of physics and the prospects for their use for the development of the material base of informatics; **be able to:** use the basic laws of physics in engineering when developing new methods for recording, storing and transmitting information; use the methods of theoretical and experimental research in solving physical problems of informatics; use methods for numerical estimation of the order of magnitude characteristic of various applied branches of physical informatics; **own:** methods of experimental and theoretical physics in order to develop the physical foundations of devices for recording, storing and transmitting information; physical principles of information coding in various information systems; skills in assessing the state and trends in the development of information carriers.

3. Formed competencies (academic competencies (AC), social and personal competencies (SPC)):
AC-1 - be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems; AC-2. - own system and comparative analysis; AC-3 - have research skills; AC-4 - be able to work independently; AC-5 - be able to generate new ideas (have creativity); AC-6 - have an interdisciplinary approach to problem solving; AC-9 - be able to learn, improve their skills throughout their lives; AC-10 - use the basic laws of natural sciences in professional activities; AC-14 - organize your work on a scientific basis, independently evaluate the results of your activities; SPC -1 - possess the qualities of citizenship; SPC -2 - to be capable of social interaction; SPC -3 - have the ability to interpersonal communications; SPC -5 - be capable of criticism and self-criticism; SPC -6 - be able to work in a team.

4. Requirements and forms of current and intermediate certification.
The overall assessment of the knowledge, skills and abilities of students is to analyze their work when they perform various types of classes. So, with a short survey of students before the start of the lecture, based on the results of the previous lecture, their knowledge in understanding the previously presented material is assessed. When students carry out measurements during laboratory work, it is assessed how deeply they have mastered the skills of working with measuring instruments, and when they perform calculation tasks when called to the board or independent work, their physical and mathematical culture is assessed. Intermediate attestation (exam) is carried out in two stages. The first stage includes a written answer to the questions, which are a random sample of the 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.