

Physics

(course name)

COURSE SYLLABUS ABSTRACT

6-05-0713-04-1.2 – Automation of technological processes and production

(code and name of specialties)

Automated electric drive

(profile)

	STUDY MODE		
	full-time	reduced part-time	part-time
Year	1, 2	1	2
Semester	2, 3	2	3,4
Lectures, hours	68	8	12
Practical lessons (seminars), hours	32	4	8
Laboratory works, hours	50	4	10
Graded work, semester (hours)			4 (2 h)
Graded exam, semester	2, 3	2	3,4
Contact hours (incl. guided independent study)	150	16	32
Independent study, hours	186	320	304
Total course duration in hours / credit units	336/9	336/9	336/9

1. Course outline

The aim of the training is to develop basic knowledge and skills in the area of physics. They allow one to navigate in the flow of scientific and technical information and form a materialistic worldview and a scientific method of cognition.

2. Course learning outcomes

As a result of the mastering of the subject, the student has to **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; to **apply**: the laws of physics to solve applied engineering problems; use measuring instruments for the analysis of physical phenomena and processes; to master the methods of physical modeling of technical processes, methods of analysis and solution of applied engineering problems.

3. Competency Code:

BPC-1. Be able to use the laws of natural science disciplines in professional activities.

UPC-2. Solve standard problems of professional activity based on the use of information and communication technologies.

4. Requirements and forms of midcourse evaluation and summative assessment

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.