

ELECTRICAL ENGINEERING AND ELECTRONICS

ABSTRACT

to the curriculum of the education institution

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

Concentration: Automation of technological processes and production in mechanical engineering

	Form of higher education
	Full-time (day)
Year	2
Semester	4
Lectures, hours	34
Practical classes (seminars), hours	16
In-class test (semester, hours)	16
Test (credit), semester	4
Classroom hours for the academic discipline, hours	66
Independent work, hours	42
Total course duration in hours / credit units	108/3

1. Summary of the academic discipline. The discipline belongs to the module «Design and strength calculations of machine parts» The task of the discipline is to form the concept of the principles of operation and design of electronic devices, experimental study of their operation in various modes on laboratory devices and computers, as well as the use of electronic and digital devices in solving various technical problems.

2. Learning outcomes. As a result of mastering the discipline, the student should know: electro-technical laws and methods of analysis of electrical and magnetic circuits; the purpose and principle of operation of the main components of modern equipment containing electrical machines, apparatuses and elements of automation, electrical measuring devices; electrical terminology and symbols.

be able to: experimentally determine the parameters and characteristics of typical electrical devices; turn on electrical devices and machines, control them and monitor their efficient and safe operation; professionally draw up technical specifications for the development of automated control systems for production processes together with electrical engineers.

possess: methodology for selecting electrical products to ensure the functioning of electrical machines and apparatuses; methodology for reading electrical circuits and determining the characteristics of typical electrical devices.

3. Formed competencies: use knowledge about the principles of operation, designs, properties of basic electrical measuring instruments, amplification, logic, digital and converting devices to solve engineering problems in mechanical engineering.

4. The form of the current certification: test (oral-written form). In order to be admitted to the test, the student, in accordance with the curriculum, is obliged to perform and defend laboratory work, as well as individual assignments and control work.