

ELECTRICAL ENGINEERING AND ELECTRONICS

COURSE SYLLABUS ABSTRACT

Specialty: 6-05-0715-03 - Cars, tractors, mobile and technological systems

Concentration: Computer engineering in material handling engineering

Concentration: Computer engineering in construction and road engineering

Concentration: Computer engineering in the automotive industry

	Form of higher education
	Full-time (day)
Year	2
Semester	4
Lectures, hours	34
Practical classes (seminars), hours	34
In-class test (semester, hours)	16
Exam, semester	4
Classroom hours for the academic discipline, hours	84
Independent work, hours	60
Total course duration in hours / credit units	144/4

1. Summary of the academic discipline. The discipline belongs to the module «Automated control systems». 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 the basics of electrical and magnetic phenomena, electronics and circuit technology, calculate the parameters of circuits of electrical devices of direct and alternating current.

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