

ELECTRICAL ENGINEERING AND ELECTRONICS

COURSE SYLLABUS ABSTRACT

Specialty: 6-05-0715-07 - Operation of ground transport and technological machines and complexes

Concentration: Technical operation of cars and car service

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

Concentration: Computer engineering

	Form of higher education	
	Full-time (day)	Part time
Year	2	2
Semester	4	4
Lectures, hours	34	8
Practical classes (seminars), hours	34	4
In-class test (semester, hours)	16	4
exam, semester	4	4
Classroom hours for the academic discipline, hours	84	16
Independent work, hours	96	164
Total course duration in hours / credit units	180/5	

1. Summary of the academic discipline. The discipline belongs to the module «Automation and information technology» - specialty 6-05-0715-07 - Operation of ground transport and technological machines and complexes; and «Automation of car control» - specialty 6-05-0715-03 - Cars, tractors, mobile and technological 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: electrotechnical 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: carry out measurements of electrical quantities, calculation of electrical circuits and determination of parameters of elements of electronic devices and automation devices.
4. The form of current certification: completion and defense of laboratory work, individual assignments, tests. Intermediate certification of exams (oral and written form).