

# ELECTRICAL ENGINEERING AND BASICS OF ELECTRONICS

## ANNOTATION

### TO THE PRACTICE PROGRAM OF HIGHER EDUCATION INSTITUTIONS

#### **Specialty 1-36 07 02 "Manufacture of products based on three-dimensional technologies"**

	Form of higher education	
	Full-time (daytime)	Correspondence
Well	3	2
Semester	5	4
Lectures, hours	50	6
Practical (seminar) classes, hours	16	4
Laboratory classes, hours	16	4
Classroom examination (semester, hours)	-	4 (2h)
Exam, semester	5	4
Classroom hours per academic discipline	82	16
Independent work, hours	38	104
Total hours per academic discipline / credit units	120 /3	

1. Brief content of the academic discipline. The discipline belongs to the module "General technical disciplines" (a component of an institution of higher education). The task of the discipline is the formation of the concept of the principles of operation and design of electronic devices, the experimental study of their operation in various modes on laboratory installations 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 academic discipline, the student must know: electrical 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, apparatus 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, manage them and control their efficient and safe operation; to competently draw up technical specifications for the development of automated control systems for production processes together with electrical engineers.

own: methodology for the selection of electrical products to ensure the functioning of electrical machines and apparatus; a technique for reading electrical circuits and determining the characteristics of typical electrical devices.

3. Competences to be formed: SC-5 - to be able to select and operate electrical, electronic and electrical measuring devices for managing production processes, competently solve energy saving issues.

4. Form of current certification : exam (oral and written form). In order to be admitted to the exam, the student, in accordance with the curriculum, must complete and defend laboratory work, as well as individual tasks.