

MICROPROCESSOR TOOLS IN AUTOMATED ELECTRIC DRIVE

COURSE SYLLABUS ABSTRACT

Speciality: 1-53 01 05 «Automated electric drive»

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	4	4
Semester	7	7	7
Lectures, hours	32	8	8
Practical classes (seminars), hours	8	2	2
Laboratory classes, hours	48	12	10
Course project, semester	7	7	7
Exam, semester	7	7	7
Contact hours	88	24	20
Independent study, hours	42	106	110
Total course duration in hours / credit units	130/3		

1. Course outline

The purpose of teaching the discipline "Microprocessor tools in an automated electric drive" is to provide students with knowledge about the principles of building microprocessor control systems and their application in the control of electric drives and in the automation of industrial installations.

2. Course learning outcomes

A student who has studied the discipline should know: the purpose, principle of operation, structure and functional features of microprocessors and other elements of microprocessor systems; classification of microprocessors and architectural features of microprocessor kits manufactured by industry. A student who has studied the discipline should be able to: use the design methodology of microprocessor control systems; make a choice of the structure of the microprocessor control system and the means for its implementation; synthesize digital controllers in microprocessor control systems of electric drives. A student who has studied the discipline must possess: methods of using microprocessor tools for automation and control of electric drives; programming methods and micro-processor command systems; microcontroller structures and their application in electric drive control systems.

3. Competencies

BOD-14. Know programming languages and be able to program microprocessors and microcontrollers, be able to select and apply hardware microprocessor tools for automatic control systems of electric drives.

4. Requirements and forms of midcourse evaluation and summative assessment.

Intermediate control of the student's knowledge is carried out in laboratory classes during the interview before laboratory work and during the defense of the report on laboratory work. Intermediate control of the student's knowledge is carried out in practical classes based on the results of solving individual control tasks. For each topic of the practical lesson, the solution of an individual task is recommended.