

FUNDAMENTALS OF MICROPROCESSOR TECHNOLOGY

COURSE SYLLABUS ABSTRACT

Specialty 6-05-0713-04 Automation of technological processes and productions

Concentration Automated electric drives

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	3	3
Semester	6	6	6
Lectures, hours	34	6	6
Laboratory classes, hours	34	6	6
In-class test (semester, hours)		6, 2	6, 2
Exam, semester	6	6	6
Contact hours	68	14	14
Independent study, hours	40	94	94
Total course duration in hours / credit units	108/3		

1. Course outline

Fundamentals of information theory. Fundamentals of computer technology. Principles of building microprocessor systems. Digital elements in microprocessor systems. Analog elements in microprocessor systems. Memory devices. Architecture of single-chip microprocessors. The microprocessor command system. Information exchange in microprocessor systems. Exchange of information with peripheral devices.

2. Course learning outcomes

Know the arithmetic and logical foundations of microprocessor technology, the main logical elements and nodes used in microprocessor devices; principles of software control of information processing and features of information representation in microprocessor systems; purpose, principle of operation, structure and functional features of microprocessors and other elements of microprocessor systems; classification of microprocessors and their parameters; structure of microprocessor systems and implementation features individual elements; prospects for the development of microprocessor technology and its impact on the development of modern automated production.

Be able to select the structure of a microprocessor system and the means for its implementation; develop standard algorithms and programs for information processing in microprocessor devices.

Have the skill of programming and debugging microprocessor systems.

3. Competencies

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

Current monitoring of academic performance involves assessment of the completion and defense of an individual assignment. The form of midterm assessment is an exam.