

# PROGRAM CONTROL SYSTEMS

## COURSE SYLLABUS ABSTRACT

1-53 01 05 Automated electric drives

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	4, 5	4
Semester	7, 8	8, 9	7, 8
Lectures, hours	46	14	12
Laboratory classes, hours	92	24	20
In-class test (semester, hours)		8 (2)	
Exam, semester	7	8	7
Pass/fail, semester	8	9	8
Contact hours	138	40	32
Independent study, hours	78	176	184
Total course duration in hours / credit units	216/5		

### 1. Course outline

The discipline studies the principles of construction and operation of software control systems for technological equipment.

### 2. Course learning outcomes

Upon completion of the course, students will be expected to know:

- the principles of building program control systems;
- the types of equipment with program control, rational areas of their use;
- the functions and main elements of program control devices, principles of their hardware and software implementation;
- composition of software and organization of the computing process of microprocessor systems of program control;

be able to:

- determine the requirements and select a program control device for automating the process;
- create a control program for program control of technological equipment;
- carry out circuit design of nodes for interfacing state sensors of process equipment and actuators with a programmable logic controller;

possess:

- fault diagnostic methods in any functional parts of the program control system;
- basic methods of working with program control systems in production;
- methods for assessing the technical and economic efficiency of control systems.

### 3. Competencies

SC-11. To know modern cyclic, positional and contour control systems, be able to operate, diagnose and repair them.

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

To assess the quality of assimilation of educational material by students, including the acquired competencies, current certification is carried out in the form of an exam and a credit for the academic discipline. The results of the current certification in the form of an exam are evaluated by marks in points on a ten-point scale. The results of passing the tests are evaluated with the marks "passed" or "not passed".

Intermediate control of progress is aimed at ensuring maximum efficiency of the educational process, increasing motivation for learning; provides for the evaluation of the performance and protection of laboratory work.