PROGRAMMABLE CONTROL SYSTEMS
COURSE SYLLABUS ABSTRACT

6-05-0713-04 Automation of technological processes and production
(speciality code and name)

Automated electric drives
(concentration)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	4, 5	3, 4
Semester	7, 8	8, 9	6, 7
Lectures, hours	60	12	12
Laboratory classes, hours	44	8	8
In-class test (semester, hours)	_	8 (2 ч)	6 (2 ч)
Exam, semester	7	8	6
Pass/fail, semester	8	9	7
Contact hours	104	22	22
Independent study, hours	94	176	176
Total course duration in hours / credit units	198/6		

1. Course outline

The aim of the academic discipline is to develop students' knowledge of the functional capabilities, principles of organizing technical means and software, and the basics of designing and operating software control systems.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

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

be able to:

- determine requirements and select a software control device for automation of the technological process;
- create a control program for software control of technological equipment;
- perform circuit design of units for interfacing sensors of the state of technological equipment and actuators with software control devices;

possess a skill to:

- diagnose faults in any functional parts of the software control system;
- work with software control systems in production;
- assess the technical and economic efficiency of software control systems.

3. Competencies

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

Current monitoring of academic performance includes assessment of the performance and defense of laboratory work. To assess the quality of assimilation of educational material by students, including acquired competencies, an intermediate assessment is conducted in the form of an exam in one semester and a test in another.