CONTROL SYSTEMS FOR TECHNOLOGICAL EQUIPMENT

COURSE SYLLABUS ABSTRACT

1-36 01 01 Engineering technology

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	5	4
Semester	8	9	7
Lectures, hours	18	2y+4	2y+4
Practical classes (seminars), hours	12	4	2
Pass/fail, semester	8	9	7
Contact hours	30	10	8
Independent study, hours	70	90	92
Total course duration in hours / credit units	100/3		

1. Course outline

Principles of construction and operation of control systems for technological equipment

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- the principles of building control systems for technological equipment;
- the functions and main elements of control devices, principles of their hardware and software implementation;
- the composition of software for control systems based on programmable logic controllers;

be able to:

- determine the requirements and select a control device for process automation;
- create a control program for the 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:

- the methods for diagnosing a malfunction in the functional parts of the control system;
- the basic methods of working with management systems in production;
- the methods for assessing the technical and economic efficiency of control systems.

3. Competencies

SC-3. Be able to design individual units and metal-cutting machines as a whole, elements of hydraulic and pneumatic drives, as well as hydraulic and pneumatic automation, devices for these machines of various types, while using modern equipment control systems.

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, a current certification is carried out in the form of a credit for the academic discipline. 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 assessment of the implementation of individual tasks for practical work.