WELDING ROBOTS AND WELDING ACCESSORIES

COURSE SYLLABUS ABSTRACT

Specialty 6-05-0714-03 Engineering and technical design and productionof materials and products made from them

Profiling: Equipment and technology for welding production

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	3	4
Semester	7	6	8
Lectures, hours	34	8	8
Laboratory classes, hours	34	8	8
Pass/fail, semester	7	6	8
Contact hours	68	16	16
Independent study, hours	76	128	128
Total course duration in hours / credit units	144/4		

1. Course outline

The purpose of teaching the academic discipline is to provide students with ideas, knowledge and skills in the field of operating principles, structure and features of industrial robots as part of flexible manufacturing systems, practical skills in working with robotic systems, technological equipment and developing programs for their control.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- technology of automated and robotic arc welding in protective gases and contact spot welding;
- main technical characteristics and operation of welding robots and machines as part of complexes and systems;
- auxiliary peripheral equipment, the possibility of its aggregation with the main technological equipment and control from a common control system;

be able to:

- use existing or mass-produced equipment to solve specific problems in terms of mechanization and automation of welding production;
- use experience in solving specific problems in automating assembly and welding processes of the most common types of welding products;
- use the capabilities and technical characteristics of flow mechanized and automatic assembly and welding lines;

to possess a skill:

- selection of the main technological and peripheral equipment for solving specific problems of mechanization and automation of production;
- determination of the efficiency of using existing or newly developed automated welding systems.

3. Competencies

Master the principles of complex mechanization and flexible automation of welding production, non-standard equipment and technological tooling using robotic systems.

4. Requirements and forms of midcourse evaluation and summative assessment

To assess the quality of assimilation of the educational material by students, including acquired competencies, current certification is carried out during classes based on the results of the defense of laboratory work (orally) and the completion of tests (written). Intermediate certification of students is carried out based on the results of the current certification and provides for a test (written and oral). Intermediate control of academic performance is aimed at ensuring maximum efficiency of the educational process and increasing motivation for learning.