FUSION AND PRESSURE WELDING EQUIPMENT

COURSE SYLLABUS ABSTRACT

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

Profiling: Equipment and technology for welding production

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	2, 3	3
Semester	5, 6	4, 5	5, 6
Lectures, hours	50	10	10
Practical classes (seminars), hours	32	8	8
Laboratory classes, hours	50	10	10
In-class test (semester, hours)	-	5 semester (2 hours)	6 semester (2 hours)
Pass/fail, semester	5	4	5
Exam, semester	6	5	6
Contact hours	132	30	30
Independent study, hours	120	222	222
Total course duration in hours / credit units	252/7		

1. Course outline

The purpose of teaching the academic discipline is to provide students with knowledge in the field of operating principles and features of fusion and pressure welding equipment, to familiarize students with the capabilities of modern universal welding equipment and the prospects for its development, as well as the effective use of the acquired knowledge in practical activities.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- the design and main characteristics of welding arc power sources: welding transformers, rectifiers, inverter converters, units;
- the design and main characteristics of equipment for arc welding and surfacing, electroslag, plasma, electron beam and laser welding;
- the design and main characteristics of pressure welding equipment;

be able to:

- select fusion and pressure welding equipment that ensures efficient welding processes;
- set the required welding modes on the welding equipment;;

to possess a skill:

- calculation of parameters of modes and selection of equipment for fusion and pressure welding;
- safe operation of equipment for fusion and pressure welding.

3. Competencies

Be able to select fusion and pressure welding equipment, power sources and welding modes that ensure efficient welding processes and stable quality of welded joints.

4. Requirements and forms of midcourse evaluation and summative assessment

In order 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 and individual assignments (orally) and the completion of tests (in writing). Intermediate certification of students is carried out based on the results of the current certification and provides for a test and an exam (in written and oral form) in order to ensure maximum efficiency of the educational process.