

WELDING EQUIPMENT DIAGNOSTICS AND TESTING

COURSE SYLLABUS ABSTRACT

7-06-0714-02 **Innovative technologies in mechanical engineering**

(speciality code and name)

Welding technologies

(concentration)

Advanced higher education

	STUDY MODE	
	full-time	part-time
Year	2	2
Semester	3	4
Lectures, hours	34	8
Laboratory classes, hours	34	8
Pass/fail, semester	3	4
Contact hours	68	16
Independent study, hours	132	184
Total course duration in hours / credit units	200/6	200/6

1. Course outline

The purpose of teaching the discipline is to provide undergraduates with knowledge in the field of diagnostics, commissioning and testing of equipment for manual, mechanized and automatic fusion arc welding, pressure resistance welding and the effective use of this knowledge in practical activities.

2. Course learning outcomes

As a result of mastering the academic discipline, the undergraduate must

know:

- theoretical foundations of welding arc power supply and welding arc control;
- theoretical foundations of processes and energy sources in resistance welding;
- design features and principles of the formation of voltage characteristics of equipment for arc and resistance welding;

be able to:

- check the serviceability of electronic components of power units and control circuits of welding equipment;
- measure welding equipment parameters during diagnostics and tests;

have the skill to:

- safe operation during diagnostics and testing of power supplies and equipment for arc and resistance welding.

3. Competencies

Know the principles of operation of modern welding equipment and possess the tools and skills to diagnose welding power supplies

4. Requirements and forms of midcourse evaluation and summative assessment

To assess the quality of students assimilation of educational material, including acquired competencies, ongoing certification is carried out during training sessions based on the results of tests. Interim certification of students is carried out based on the results of the current certification and provides for a pass/fail. Intermediate monitoring of academic performance is aimed at ensuring maximum efficiency of the educational process and increasing motivation to study.