

COMPUTER SIMULATION OF WELDING PROCESSES

COURSE SYLLABUS ABSTRACT

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

Profiling Equipment and technology of welding production

	Study mode		
	full-time	part-time	part-time (shortened program)
Year	3	4	3
Semester	6	7	5
Lectures, hours	16	4	4
Laboratory classes, hours	16	4	4
Pass/fail, semester	6	7	5
Contact hours	32	8	8
Independent study, hours	76	100	100
Total course duration in hours / credit units	108/3		

1. Course outline

The purpose of teaching the discipline is to develop students of specialty 6-05-0714-03 "Engineering and technical design and manufacture of materials and products made from them" ideas, knowledge and skills in the composition and capabilities of modern application programs for computer modeling of processes occurring in welding production.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- the main goals, objectives and stages of modeling;
- basic computer modeling methods for problems in the production of welded structures;
- modern applied software products for computer simulation of welding processes.

be able to:

- create mathematical and computer models of welding processes;
- to use application software products to implement these models;
- to use techniques for safe work with technical means in computer modeling.

to possess a skill:

- computer modeling in solving welding production problems using modern software and hardware;
- safe operation with technical means when solving welding production problems using computer simulation methods.

3. Competencies

Master the basic principles of construction, methods of designing and calculating welded structures using automated production systems.

4. Requirements and forms of midcourse evaluation and summative assessment

The current certification is presented in the form of test tasks for control works, a list of questions for the protection of laboratory work. Intermediate certification is the pass/fail test. The form of the intermediate assessment is oral/written.