

WELDING AND HARDENING OF SPECIAL STEELS

(name of the discipline)

ANNOTATION TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

Specialty 1-36 01 06 “Equipment and technology of welding production”

Direction of specialty _____

Specialization _____

	form of higher education		
	Full time (daytime)	Correspondence	Correspondence abbreviated
Course	4	4	4
Semester	7, 8	7, 8	7, 8
Lectures, hours	68	14	12
Laboratory studies	34	10	8
Classroom examination (semester, hours)	-	8 (2 hours)	--
Credit, semester	8	8	8
Exam, semester	7	7	7
Classroom hours per academic discipline	102	26	20
Independent work, hours	118	194	200
Total hours in academic discipline / credit units	220/6	220/6	220/6

1. Brief content of the discipline

The purpose of the discipline is to develop students of the specialty 1-36 01.06 "Equipment and technology of welding production" to give in-depth knowledge of the state and prospects for the development of fusion welding technology in the production of welded structures from special steels and alloys in the energy, cryogenic, petrochemical and other branches of engineering.

2. Learning outcomes

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

know:

- metallurgical processes in welding and cause-and-effect relationships between the nature of the process and the quality of welded joints; technological features of welding of special steels; sensitivity of special steels and alloys to the thermal deformation cycle of welding; heat treatment of welded joints;
- metallurgical features of welding of special steels and alloys; issues of labor protection and the environment when welding metals of various alloying systems; resource-saving welding technologies, rational choice of welding materials, heat treatment modes.

be able to:

- choose basic and welding materials for the manufacture of welded structures; design technological processes for welding special steels and alloys.

own:

- methods for assessing the technological strength of welded joints; methods of rational choice of welding materials and heat treatment modes depending on the operating conditions of welded structures.

3. Formed competencies

SC-18: Be able to choose rational schemes and modes of welding, hardening and heat treatment of welded joints of special steels and alloys, evaluate the physical, mechanical and operational properties of materials and products

4. Requirements and forms of current and intermediate certification.

When studying the discipline, a module-rating system for assessing knowledge is used. Used assessment tools for the academic discipline are stored at the department.