

# INNOVATIVE TECHNOLOGIES OF WELDING, CUTTING AND HARDENING OF METALS

(name of the discipline)

## ANNOTATION TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

Specialty 1-36 80 02 “Innovative technologies in mechanical engineering”

Direction of specialty \_\_\_\_\_

Specialization \_\_\_\_\_

	Form of higher education	
	Full-time (Day)	Part-time
Course	1	1
Term	1	1
Lectures, hours	36	8
Laboratory classes, hours	18	4
Exam, semester	1	1
Classroom hours for the academic discipline	54	12
Independent work, hours	54	96
Total hours of academic discipline / credits	108/3	

### 1. Summary of the academic discipline

The purpose of the discipline is to obtain and master undergraduates of specialty 1-36.80.02 "Innovative technologies in mechanical engineering" knowledge and skills on the physical foundations of innovative methods of welding, cutting and hardening of metals and their use in the production of welded structures made of metal materials.

### 2. Learning outcomes

As a result of mastering the discipline, the student must

#### **know:**

- the physical nature and technological features of innovative methods of welding, cutting and hardening of metals;
- achievements of science and advanced technologies in the field of modern technological machines and equipment;
- application of modern equipment, technological processes and tooling, new materials in the field of mechanical engineering.

#### **be able to:**

- to prepare and conduct classes with students in the field of innovative technologies in mechanical engineering, to manage research work;
- develop practical recommendations on the use of the results of scientific research, planning and conducting experimental studies;
- evaluate the technical and economic feasibility of using specific innovative methods of welding, cutting and hardening of metals.

#### **own:**

- processes of development of welding technologies, improvement of their quality, automation of technological processes, application of computer technologies;
- the methodology for determining the technological parameters of welding, cutting and hardening using modern equipment in accordance with state standards.

### 3. Emerging competencies

SK-1 - To be able to acquire new knowledge in the production and technological field of welding production using modern information technologies.

### 4. Requirements and forms of current and interim certification

When studying the discipline, a modular rating system for assessing knowledge is used. The evaluation tools used for the academic discipline are stored at the department.