

# **BASICS OF SURFACE TREATMENT BY METHODS OF SPD**

(course title)

## **COURSE SYLLABUS ABSTRACT**

**Speciality:** 1-36 01 04 «Equipment and technologies for highly efficient material processing processes».

	STUDY MODE
	full-time
Year	3
Semester	6
Lectures, hours	34
Laboratory classes, hours	16
Pass/fail, semester	6
Contact hours	50
Independent study, hours	58
Total course duration in hours / credit units	108/3

### 1. Course outline.

The purpose of the discipline is to acquire by students a complex of special knowledge and skills in the field of various methods of surface plastic deformation (SPD), the technological equipment and equipment used.

### 2. Course learning outcomes.

As a result of mastering the academic discipline, the student should know:

- technical capabilities of various SPD methods;
- physical essence of SPD methods;
- tools, tooling and equipment used for SPD;
- operational properties of the surfaces of parts treated with SPD;

be able to:

- to choose methods of SPD for processing individual surfaces of the part, providing the necessary quality and efficiency of the processing process;
- to determine the optimal processing parameters by the SPD method;

possess:

- a methodology for choosing the method SPD of pressure molding for processing individual surfaces of a part, taking into account the requirements of the drawing and type of production;
- information about modern SPD methods and prospects for their development;
- skills in the choice of equipment, tooling, automation and mechanization in the design of processing technology using the methods of SPD.

### 3. Competencies.

Mastering this academic discipline should ensure the formation of the following competencies:

CK-3: Know the basic processes of material processing and assembly of machines, methods of calculation and selection of a processing tool.

### 4. Requirements and forms of midcourse evaluation and summative assessment.

To assess the level of knowledge of students, the following diagnostic tools are used: oral survey during laboratory work; reports on completed laboratory work with their oral defense; submission of an account.