

MATERIAL PROCESSING

(name of the discipline)

COURSE SYLLABUS ABSTRACT

Specialty 6-05-0713-04-1 Automation of technological processes and production

Profiling: Automation of technological processes and production in mechanical engineering

	STUDY MODE
	Full-time
Year	3
Semester	5
Lectures, hours	50
Practical (seminar) classes, hours	16
Laboratory classes, hours	16
Exam, semester	5
Classroom hours per academic discipline	82
Independent work, hours	62
Total hours per academic discipline / credits	144/4

1. Course outline

The discipline “Processes of Materials Processing” contains general ideas about the content and tasks of mechanical engineering technology, about the foundations of theoretical positions, about the connections and patterns of technological processes, knowledge of which allows you to develop processes for machining parts and assembling machines and devices that ensure their quality at the highest level of labor productivity and the lowest production cost.

2. Course learning outcomes

Upon completion of the course, students will be expected to know:

- sources of machining errors, methods of their reduction;
- influence of various factors on the characteristics of the quality of surfaces of parts and their performance properties;
- principles of designing rational technological processes for various production conditions;

be able to:

- perform calculations of the main types of processing errors;
- design technological processes for processing parts and assembling machines for various production conditions;
- draw up technological documentation;
- evaluate the accuracy and stability of the current technological process;

to possess a skill:

- methodology for choosing the route for processing individual surfaces and the part as a whole, taking into account the requirements of the part drawing, the accepted workpieces and the type of production;
- skills for assessing the quality of the technological process of machining and manufactured parts in production conditions;
- information necessary for the selection of statistical methods of regulation and quality control of products for given production conditions.

3. Competencies

Know the sources of errors in machining, methods for calculating and reducing machining errors, designing technological processes for machining parts and assembling machines.

4. Requirements and forms of midcourse evaluation and summative assessment

Current and intermediate certification is carried out in written and oral-written form through reports on laboratory and practical work with their oral defense, a written exam.