TECHNOLOGICAL METHODS FOR IMPROVING WEAR RESISTANCE AND RESTORING MACHINE PARTS

(course title)

COURSE SYLLABUS ABSTRACT

6-05-0714-02 Mechanical engineering technology, metal-cutting machines and tools

(speciality code and name)

Mechanical engineering technology. Equipment and technologies for highly efficient material processing processes

(concentration)

	Форма получения высшего образования			
	full-time 6-05-0714-02-1	part-time 6-05-0714-02-1	part-time part-time (shortened program) 6-05-0714-02-1	full-time 6-05-0714-02-2
Course	4	4	4	4
Semester	7	7	7	7
Lectures, hours	34	8	8	34
Laboratory classes, hours	16	4	4	16
Exam, semester	7	7	7	7
Course paper, semester	-	-	-	7
Contact, hours	50	12	12	50
Independent study, hours	58	96	96	58
Total course duration in hours / credit units	108/3			

1. Course outline

The discipline "Technological methods of increasing wear resistance and restoration of machine parts" contains general ideas about the methods of controlling the structure and properties of materials in products under operational requirements.

2. Course learning outcomes

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

– characteristic malfunctions of machine parts and the reasons for their formation;
– the structure of the process of restoring parts;
– technical and economic aspects of restoration of machine parts;
– methods of cleaning the surfaces of parts from contamination;
– basic and promising ways to restore and harden machine parts.

be able to: determine the type of defect in parts and an effective way to restore them;

– select the optimal parameters of the coating application mode by various methods.

to possess a skill: use of acquired knowledge and skills in the processes restoration and hardening of machine parts.

3.Competencies:

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

For specialty 6-05-0714-02 Mechanical engineering technology, metal-cutting machines and tools Profile: Mechanical engineering technology: Know the basic concepts of equipment reliability, the causes of machine part failure, and methods for preventing and eliminating them.

For specialty 6-05-0714-02 Mechanical engineering technology, metal-cutting machines and tools Profile: Equipment and technologies for highly efficient material processing processes: Be able to analyze the technical condition of worn-out components, plan and carry out inspections, and organize production for the repair and restoration of equipment.

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 work with their oral defense, written exam.