

TECHNOLOGICAL EQUIPMENT

(course title)

COURSE SYLLABUS ABSTRACT

Specialty 6-05-0714-02 – «Technology of mechanical engineering, metal-cutting machines and tools»

Specialization «Technology of mechanical engineering»; «Equipment and technologies of highly efficient material processing processes»; «Technological equipment of machine-building production»

Specialty 6-05-0713-04 – «Automation of technological processes and productions»

Specialization «Automation of technological processes and productions in mechanical engineering»

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	3	2
Semester	5	5	3,4
Lectures, hours	34	8	8
Laboratory classes, hours	16	4	4
Course paper, semester	5	5	4
Pass/fail, semester	5	5	3
Contact hours	50	12	12
Independent study, hours	58	96	96
Total course duration in hours / credit units	108/3		

1. Course outline

The purpose of the discipline is for students to study the theoretical foundations, calculation principles and design methods of various devices and auxiliary tools. This will allow them to consciously and creatively create workable and high-performance technological equipment.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- fundamentals of the theory of basing and principles of installation of workpieces in devices;
- methods of designing various types of devices;
- types and design features of devices for various types of machining;
- methods of power calculation of devices;
- the procedure for the economic justification of the expediency of using technological equipment;

be able to:

- design fixtures for various types of processing and assembly;
- correctly use the recommendations of reference books, engineering norms and standards;
- to ensure the required accuracy of workpiece processing in the device;
- if necessary, provide mechanization to the automation of the device;
- to evaluate the effectiveness of the device, its condition during operation;
- to carry out an economic justification for the choice of the device design;

to possess a skill:

- methods of calculation and design of technological equipment in accordance with the tasks set;
- skills in using reference literature and standards;
- the skills necessary to independently solve problems in the field of designing technological equipment both in the implementation of course and diploma projects, and in his future professional activities.

3. Competencies

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

Specialization: «Technology of mechanical engineering»; «Equipment and technologies of highly efficient material processing processes»

– To be able to design individual components and metal-cutting machines as a whole, elements of hydraulic and pneumatic actuators, as well as hydraulic and pneumatic automatics, adaptations to these machines of various types, while using modern equipment control systems.

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

Specialization «Technological equipment of machine-building production»

– Is to be able to design metal-cutting machines and technological equipment, using methods of aggregation, basic models, modular design, performing the necessary calculations for strength, rigidity, accuracy, thermal stability, as well as engineering experiments in order to ensure the quality of the designed equipment.

6-05-0713-04 – «Automation of technological processes and productions»

Specialization «Automation of technological processes and productions in mechanical engineering»

– To be able to design adaptations to machines of various technological groups.

4. Requirements and forms of midcourse evaluation and summative assessment

Current and intermediate certification are carried out in written and oral-written form through the protection of laboratory work, control work, course work; passing the test.