Process equipment
(course title)

COURSE SYLLABUS ABSTRACT

1-36 01 03 – Machine-building process equipment
(speciality code and name)

	STUDY MODE	
	full-time	part-time (shortened program)
Year	3	3
Semester	5	5
Lectures, hours	50	12
Laboratory classes, hours	34	8
Course project, semester	6	5
Exam, semester	5	5
Contact hours	84	20
Independent study, hours	36	100
Total course duration in hours / credit units	120/3	

1. Course outline

Main units and mechanisms of process equipment. Technical equipment control systems. Metal cutting machine as a process system. Lathes and automatic machines. Drilling and boring machines. Milling machines. Toothworking machines. Drawers, planers, rungs. Abrasive equipment. Equipment for physical and technical processing. Automatic assembly equipment.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know**:** technological capabilities of the equipment; structures of its main units; principles of equipment adjustment for basic operations; features of machine tool designs for different types of machining; trends in the development of technological equipment; basic design principles for metal cutting machines; principles of building automatic lines and flexible production systems;

be able to**:** perform kinematic adjustment and adjustment of equipment; Select equipment to process parts based on their configuration and requirements design a machine that provides the necessary characteristics of the workpiece (surface); evaluate the technical and economic indicators of the metal-cutting machine; develop the terms of reference for the metal cutting machine control system;

possess: methods for designing kinematic schemes, general arrangement of individual assemblies of metal cutting machines taking into account their purpose and the adopted control system; skills in assessing the performance of a metal cutting machine in production conditions; methods of predicting the reliability of metal-cutting machines, development of technical specifications for their operation.

3. Competencies

SK-6 – Be able to design machining processes on machines by selecting universal machines or forming a task to create a special machine, selecting or designing cutting tools, assigning a machining mode, lubricating and cooling means and other cutting conditions.

4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: laboratory protection, academic year project, exam.