Tools systems
(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	5	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

Incisors. Rotating rod tools for hole machining. Broaching and firmware. Cutters. Threaded tools. Tooth cutting instruments. Abrasive and diamond tools. Selection of cutting material and method of cutting elements fixation. Design of cutting tools. Basics of operation of cutting tools.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know*:* requirements for cutting tools taking into account the specified quality, accuracy and accuracy of processing; features of structures of the main types of cutting tools; requirements for operation of cutting tools;

be able to*:* select the materials and design of the cutting tool based on the processing conditions and the requirements for its results; evaluate the characteristics of the cutting tool during its operation; design a cutting tool using CAD.

possess*:* scientific basis of design of cutting tools with specified characteristics; methods of control of structural and geometric parameters of cutting tools; methods of scientific and technical creativity and patent research.

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.