Cutting materials
(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
In-class test (semester, hours)		5 semester (2 hours)
Exam, semester	5	5
Contact hours	84	22
Independent study, hours	36	98
Total course duration in hours / credit units	120/3	

1. Course outline

Types of cutting. Chip cutting process. Features of the process of plastic deformation of metal during cutting. General concepts of forces acting on the working surfaces of a cutting blade of a tool. Drilling. Milling. Stretching. Abrasive treatment.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know**:** basic processes during metal cutting; ways of intensifying and controlling the cutting process; features of various machining processes (turning, milling, grinding, etc.).

be able to**:** use cutting process regularities to calculate the cutting tool; assess the serviceability of the cutting tool; Optimize the cutting process.

possess**:** methodology of calculation of cutting modes for various processes of machine parts machining; skills of evaluation of the cutting tool operability under the specified part processing conditions, optimization of these conditions; methods of increasing intensification and regulation of cutting processes.

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, exam.