Cutting tool theory
(course title)

COURSE SYLLABUS ABSTRACT

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

	STUDY MODE
	full-time
Year	4
Semester	7
Lectures, hours	50
Practical classes (seminars), hours	16
Laboratory classes, hours	16
Course paper, semester	7
Exam, semester	7
Contact hours	82
Independent study, hours	38
Total course duration in hours / credit units	120/3

1. Course outline

Differential geometry features. Forming surfaces by cutting. Conditions for forming surfaces by cutting. Geometry of the cutting part of the tool. Profile cutting tools. Designing cutting tools.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know**:**

– selection of optimal elements of the cutting tool design;

– basics of designing tools for machining a given part surface with a known kinematic cutting scheme;

be able to**:**

– determine the shapes of surfaces that can be machined by a known tool with a known kinematic cutting scheme;

– solve the problems of processing parts on automated equipment.

possess:

– mathematical apparatus of the theory of cutting tools;

– skills in designing special cutting tools.

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: protection of practical classes, laboratory protection, protection of heading work, exam.