

Tool manufacturing technology and automation

(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	34
Practical classes (seminars), hours	16
Laboratory classes, hours	16
Course paper, semester	8
Exam, semester	7
Contact hours	66
Independent study, hours	42
Total course duration in hours / credit units	108/3

1. Course outline

Instrumental materials. Workability of materials. Methods of production of blanks. Assembly of cutting tools. Material-saving technology in the production of tools. Basic surfaces of tools. Formation of internal and external surfaces of the tool. Threaded surfaces. Monolithic carbide tools. Grinding in tool manufacturing. Thermochemical methods of coating application. Typical technology for the manufacture of cutters, tail and nozzle axial tools, shevers.

2. Course learning outcomes

Upon completion of the course, students will be expected to know: modern standard solutions for the development of technological processes for the manufacture of cutting tools.

be able to: on the basis of technical and economic requirements and production conditions, develop technological processes for the manufacture of metal-cutting tools; draw up process documentation; assess the performance and quality of the cutting tool; analyze the causes of loss of cutting properties by the tool and develop measures to restore its performance and increase resistance.

possess: basic principles for designing tool manufacturing processes.

3. Competencies

SK-11 – Be able to design technological processes for manufacturing cutting tools with execution of technological documentation, ensuring productivity and cost-effectiveness of their manufacturing process.

4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: protection of practical classes, laboratory protection, protection of heading work, exam.