

## Cutting machines

(course title)

### **COURSE SYLLABUS ABSTRACT**

1-36 01 01 – Manufacturing engineering

1-53 01 01 – Automation of technological processes and production (majors in)

(speciality code and name)

1-53 01 01-01 – Automation of technological processes and production (mechanical engineering and instrument making)

(specialisation code and name)

	STUDY MODE		
	full-time	part-time (1-36 01 01)	part-time (shortened program) (1-36 01 01)
Year	3, 4	4	3
Semester	6, 7	8	6
Lectures, hours	68	8	6
Laboratory classes, hours	34	4	8
Course paper, semester	7	8	6
Exam, semester	6	8	6
Contact hours	102	12	14
Independent study, hours	38	128	126
Total course duration in hours / credit units	140/3		

#### 1. Course outline

Main components and mechanisms of machine tools. Machine control systems. Turning, drilling, boring, milling, tothing, threading, drawing, planing, running machines.

#### 2. Course learning outcomes

Upon completion of the course, students will be expected to

know: basic design principles for metal cutting machines; design features of machines for different types of machining; principles of construction of automatic lines and flexible production systems; technological equipment development trends;

be able to: 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

1-36 01 01

BKP-9.2 – Know the basic principles of designing metal cutting machines, methods of their use in the design of different types of machines.

1-53 01 01

SK-6.2 – Know the basic principles of designing metal cutting machines, methods of their use in the design of different types of machines.

#### 4. Requirements and forms of midcourse evaluation and summative assessment

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