CNC machining technology
(course title)

COURSE SYLLABUS ABSTRACT

6-05-0611-01 Information systems and technologies
(speciality code and name)

Information systems and technologies in designing and producing
(concentration)

	STUDY MODE	
	full-time	part-time (shortened program)
Year	4	2
Semester	7	4
Lectures, hours	32	6
Laboratory classes, hours	32	6
Pass/fail, semester	7	4
Contact hours	64	12
Independent study, hours	66	118
Total course duration in hours / credit units	130/4	

1. Course outline

Selection of blanks and methods of their manufacture. Base workpieces during processing on machines. Development of technological processes for manufacturing parts of technical systems. Shaft manufacturing technology. The technology of manufacturing cylindrical gears. Technological processes of workpieces processing on turning, drilling and boring group machines. Technological processes of workpieces processing using milling, grinding, tooth cutting machines. Electrophysical and electrochemical methods of surface treatment.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know**:** theoretical foundations, methods of modeling and experimental research of material processing processes; physical and chemical phenomena occurring in the interaction zone of the tool and the workpiece being processed; mechanisms for forming quality of treated surfaces; Methods for optimizing processing parameters methods of analysis, design and control of various processing processes; methods of increasing productivity, accuracy, quality parameters and reliability of technological equipment, cutting tools, intensification of processing processes;

be able to**:** Simulate process equipment Optimize processing parameters design processing processes with selection of equipment and tool systems; design structures, perform calculations, optimize parameters of tool systems and process equipment.

to possess a skill**:** basic design of processing processes; processing process control methods.

3. Competencies

Own the basis for the design of mechanisms, machines, technological equipment and technological processes of machine-building production.

4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: laboratory protection, test.