MACHINE AND INSTRUMENTATION ENGINEERING TECHNOLOGY

(course title)

COURSE SYLLABUS ABSTRACT

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

Information systems and technologies in desigen and production
(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	130/4

1. Course outline

The purpose of studying the discipline is to acquire knowledge of the theoretical foundations of mechanical engineering and instrumentation technology, as the science of creating machines and mechanisms of the required quality in the required quantity with minimal expenditure of various resources. The main provisions of the discipline are the theoretical foundations necessary for the development of technological processes for the manufacture of machines and mechanisms.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- basic provisions and concepts of mechanical engineering technology;
- theories of basing and dimensional chains;
- patterns of occurrence of processing errors, ways and methods of their elimination and reduction;
- patterns determining the provision of the lowest cost and the highest productivity of technological processes;
- the influence of various factors on the characteristics of the surface quality of parts and their operational properties;
- - principles of designing rational technological processes for various production conditions;

be able to:

- determine the type of production depending on the specified conditions;
- perform calculations of the main types of processing errors;
- to evaluate the accuracy of operations based on the total processing error;
- to make the right choice of technological bases;
- to make technological calculations of allowances, cutting modes and technical rationing;
- to make technological routes for the manufacture of machine parts;
- to draw up technological documentation;

to possess a skill:

- basic concepts and terminology in the field of mechanical engineering technology;
- skills in using technical reference literature for the rational selection of workpieces, metal-cutting equipment, cutting and measuring tools, cutting modes;
- methods of designing technological processes for processing parts and assembling machines for various production conditions;
- the skills necessary to independently solve problems in the field of process design, both in the implementation of course and diploma projects, and in his future professional activities.

3. Competencies

Master the basics of designing mechanisms, machines, technological equipment and technological processes of machine-building production.

4. Requirements and forms of midcourse evaluation and summative assessment

The current and intermediate certification is carried out in written and oral-written form through the protection of laboratory work, control work, passing the test.