AUTOMATION OF PRODUCTION PROCESSES IN ENGINEERING

(course title)

COURSE SYLLABUS ABSTRACT

Speciality: 1-53 01 01 – «Automation of technological processes and production»,
Specialisation 1-53 01 01-01 – Automation of technological processes and production (mechanical engineering and instrumentation)

	STUDY MODE
	full-time
Year	4
Semester	7
Lectures, hours	50
Laboratory classes, hours	34
Course paper, semester	7
Exam, semester	7
Contact hours	84
Independent study, hours	46
Total course duration in hours / credit units	130/3

1. Course outline.

The purpose of the discipline is to acquire by students a complex of special knowledge and skills for the organization of highly efficient automated production processes in mechanical engineering.

2. Course learning outcomes.

As a result of mastering the academic discipline, the student should

know:

- general patterns and directions of modern automated production;
- fundamentals of construction and methods for calculating technological processes of automated machine-building production;
- methods of managing production processes using modern technical means of automation and control computer technology;
- modern automated equipment necessary for organizing and managing a highly efficient production process;

be able to:

- calculate technological processes of automated machine-building production and devices for automatic loading of equipment;
- design functional and block diagrams of control systems for automated machine and robotic technological complexes, flexible production systems, etc.;
- draw up diagrams of algorithms for the functioning of automated machine systems, robotic technological complexes, flexible production systems, etc.;
- effectively use modern automated equipment necessary for organizing and managing the production process;

possess:

- the basics of construction and methods for calculating technological processes of automated machine-building production;
- the principles of constructing automated machine tools, robotic technological complexes, flexible production systems, etc.;
- methods of managing production processes using modern technical means of automation and control computer technology.

3. Competencies.

Mastering this academic discipline should ensure the formation of the following competencies:

СК-13.2: Know the main approaches to the automation of typical mechanical engineering objects, the principles of construction, calculation and synthesis.

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

To assess the level of knowledge of students, the following diagnostic tools are used: written reports on laboratory work with their oral defense; passing an exam, completing a term paper with its defense.