

CAD OF TECHNOLOGICAL EQUIPMENT OF PRODUCTION

(name of the discipline)

ANNOTATION TO THE CURRICULUM OF A HIGHER EDUCATION INSTITUTION

Specialty 1-53 01 01 «Automation of technological processes and productions»

	Form of higher education
	Full-time (daytime)
Course	4
Semester	8
Lectures, hours	30
Laboratory classes, hours	24
Test, semester	8
Classroom hours in the academic discipline	54
Independent work, hours	46
Total hours of academic discipline / credits	100/3

1. Summary of the academic discipline

The purpose of teaching the discipline is to train, on the basis of selected theoretical knowledge in the field of CAD construction, specialists who possess modern methods of automating the design of technological equipment for production and automation of mechanical assembly production using electronic computing technology to solve an urgent problem of mechanical engineering - reducing time, labor intensity and improving the quality of technological preparation of production.

2. Learning outcomes

The task of the discipline is to acquire the skills of automation of the design of technological equipment of production. As a result of mastering the discipline, the student should **know**:

- structure and principles of CAD construction of technological equipment of production;
- modern terminology in the field of automation of design of technological equipment of production;
- basic methods of automation of design of technological equipment of mechanical assembly production;
- methods of setting computer-aided design tasks for various design procedures, operations, their formalization and algorithmization;
- the current state of CAD technological equipment of production;
- the methodology of working in the CAD environment of technological equipment of production with different levels of design automation;
- methods of structural and parametric optimization of technological equipment of production.

As a result of mastering the discipline, the student should **be able to**:

- design in the environment of modern CAD technological equipment of production;
- configure databases and knowledge bases of CAD technological equipment of production for automated solution of logical and computational design tasks;
- to carry out the formulation and algorithmization of the main tasks of designing the technological equipment of mechanical assembly production.

As a result of mastering the discipline, the student must **possess**:

- skills of creating two-dimensional and three-dimensional geometric models of technological equipment of production and automation of mechanical assembly operations in the CAD system environment;
- skills of using basic CAD software in the development of automated design procedures for designing, modeling and analyzing technological equipment of production;
- methods of automation of design, modeling and digital prototyping of technological equipment of production;
- principles, methods and rules of use of integrated programming systems for automation of design procedures of modeling and analysis of technological equipment of production.

3. Formed competencies

The development of this discipline should ensure the formation of the competence of SK-6.3 - to know the methods of machine design of technological processes, the presentation of information about the part and process in a computer, the search for analogues in databases, the design of route and operational technological processes of mechanical assembly production.

4. Educational technologies: multimedia, using computers.