<u>**INFORMATION TECHNOLOGY AND 3D MODELIN**</u>

(name of the discipline)

ANNOTATION
TO THE CURRICULUM OF A HIGHER EDUCATION INSTITUTION

Specialty <u>1-36 01 01 «Mechanical engineering technology»</u>

	Form of higher education
	Full-time (daytime)
Course	2
Semester	3
Lectures, hours	34
Laboratory classes, hours	34
Course work, semester	3
Exam, semester	3
Classroom hours in the academic discipline	68
Independent work, hours	132
Total hours of academic discipline / credits	200/6

1. Summary of the academic discipline

The purpose of the discipline is to present to students the theoretical foundations and practical examples of building three-dimensional models of machine-building objects, as well as modeling the dynamics and strength analysis of machine parts.

2. Learning outcomes

The objective of the discipline is to acquire the skills of constructing three-dimensional models of machine-building objects, as well as modeling the dynamics and strength analysis of machine parts.

As a result of mastering the discipline, the student should **know**:
- basic programming technologies in an algorithmic language;
- methods of computer-aided design of structures and technologies;
- fundamentals of building three-dimensional models of engineering facilities;
- basic principles of solving problems of engineering analysis of dynamics and strength of machines;
- modern computer-aided design (CAD) and engineering analysis (CAE) systems.

As a result of mastering the discipline, the student should **be able to**:
- build three-dimensional solid-state models in modern CAD systems;
- perform engineering analysis of the dynamics and strength of machines in modern CAE systems;
- creatively apply the acquired knowledge in solving problems of engineering analysis of machine-building objects.

As a result of mastering the discipline, the student must **possess**:
- programming skills in an algorithmic language;
- skills of computer-aided design of structures and technologies;
- skills in solving problems of computer analysis of the dynamics and strength of machines.

3. Formed competencies

Mastering this discipline should ensure the formation of the following competencies:
- SK-1.1 - to know the basic programming technologies in a high-level algorithmic language, computer-aided design software, methods of computer-aided execution of drawings and other graphic works.

4. Requirements and forms of current and interim certification

Intermediate certification includes oral defense of laboratory work and the performance of test tasks. When defending laboratory work, the student answers control questions. Intermediate certification is carried out in the form of an exam. The exam ticket includes two theoretical questions and a task related to the construction of a 3D model.