

THEORY OF ELASTICITY

annotation TO THE CURRICULUM OF AN EDUCATIONAL INSTITUTION

Specialty 6-05-0611-01 "Information systems and technologies"

Specialization "Information systems and technologies in design and production"

	Form of higher education	
	Full-time (full-time)	Part-time shortened
Course	3	2
Semester	5	3
Lectures, hours	34	6
Practical (seminar) classes, hours	34	6
Credit, semester	5	3
Classroom hours in the academic discipline	68	12
Independent work, hours	40	96
Total hours in the academic discipline / credits	108/3	108/3

1. Summary of the academic discipline

The aim of the discipline is to study the basic concepts of the theory of elasticity and the features of methods for calculating deformable bodies under various types of loading, taking into account the properties of materials.

2. Learning outcomes

As a result of mastering the academic discipline, the student must:

know:

assumptions and hypotheses used in the mechanics of a deformable solid.

formulation of a mathematical model of the problem of elasticity theory, including equilibrium equations, geometric equations, Hooke's law, static and kinematic boundary conditions;

be able to:

determine the stress-strain state of structures and machine parts;

give an assessment of the degree of influence of various impacts on the structures and parts of machines;

determine the area and degree of concentration of forces and stresses in structures and parts.

have the skill:

solutions to the simplest problems of elasticity theory.

3. Emerging competencies

Use the basic laws of natural science disciplines in professional activities

4. Requirements and forms of current and interim certification.

Current certification: performing and defending design tasks and writing test papers.

Intermediate certification-credit.