

THEORETICAL MECHANICS

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TO THE CURRICULUM OF A HIGHER EDUCATION INSTITUTION

Specialty 1-36 07 02 "Production of products based on three-dimensional technologies"

	Form of higher education	
	Full-time (full-time)work	Part-time work
Course	1,2	1,2
Term	2,3	2,3
Lectures, hours	68	12
Practical (seminar)courses classes, hours	100	12
Credit, semester	2	2
Exam, semester	3	3
Classroom control work (semester, hours)		2.3 semester (4 hours)
Classroom hours for the academic discipline	168	28
Independent work, hours	72	212
Total hours per academic discipline / credit units	240/6,0	

1. Summary of the academic discipline.

Study of basic concepts, laws and methods of theoretical and analytical mechanics and their application to study the dynamics of machines and their calculation methods, as well as to build mathematical models of machines used in computer-aided design and forecasting.

2. Learning outcomes

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

To know:

- basic theoretical principles of statics, kinematics and dynamics of a material point and a solid body;
- calculation methods for static and dynamic systems, machine components and mechanisms.

be able to:

- apply basic laws and theorems of mechanics to solve applied engineering problems;
- create computational mathematical models of machines using computer technology to solve and analyze them.

own:

- methods used in mechanics to describe mechanical systems;
- laws and methods of mechanics for the analysis of complex mechanical systems;
- laws and methods of mechanics for constructing mathematical models of mechanical systems.

3. Emerging competencies

BOD-6 - Possess methods for calculating the static state of solid bodies, be able to use them when solving applied problems.

4. Requirements and forms of current and interim certification.

Survey on the topics of the lecture course, performing and defending individual tasks, performing control works. Students who have not passed or defended individual assignments are not allowed to take the test/exam