

THEORETICAL MECHANICS

(course title)

COURSE SYLLABUS ABSTRACT

1 - 37 01 02 «Automotive industry (by direction)»

(speciality code and name)

	STUDY MODE
	full-time
Year	1,2
Semester	2,3
Lectures, hours	68
Practical classes (seminars), hours	68
Exam, semester	2,3
Contact hours	136
Independent study, hours	188
Total course duration in hours / credit units	324 / 9

1. Course outline

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

2. Course learning outcomes

Upon completion of the course, students will be expected to know:

- basic concepts of mechanics;
- laws of mechanics.

be able to:

- apply methods of formalization of working processes of machines;
- to make calculated mathematical models of machines using computer technology for their

solution and analysis.

possess:

- 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. Competencies

UC-6: Take the initiative and adapt to changes in professional activity

BPC -5: Apply methods for calculating statistical and dynamic systems based on the theoretical provisions of statics, kinematics and dynamics of mechanical systems

4. Requirements and forms of midcourse evaluation and summative assessment

The following forms are used to diagnose competencies:

- written;
- oral-written.

To assess the level of knowledge of students, the following diagnostic tools are used: control papers; reports on classroom practical exercises with their oral defense; exam; assessment based on a modular rating system.