

# **THEORETICAL MECHANICS**

(course title)

## **COURSE SYLLABUS ABSTRACT**

### **6-05-0715-07 Operation of ground transport and technological machines and kits**

(speciality code and name)

### **Technical operation of cars and car service**

(concentration)

	STUDY MODE	
	full-time	part-time
Year	2	2
Semester	3	4
Lectures, hours	34	8
Practical classes (seminars), hours	34	8
In-class test (semester, hours)	-	4 (2 h)
Exam, semester	3	4
Contact hours	68	18
Independent study, hours	76	126
Total course duration in hours / credit units	144 /4	

#### 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:

- descriptions of mechanical systems;
- analysis of complex mechanical systems;
- construction of mathematical models of mechanical systems.

#### 3. Competencies

Perform calculations and analysis of kinematics and dynamics of mechanisms

#### 4. Requirements and forms of midcourse evaluation and summative assessment

To assess the level of knowledge of students, the following diagnostic tools are used: tests; individual task; assessment based on a modular rating system. Intermediate certification is an exam.