

THEORY OF MECHANISMS AND MACHINES

(course title)

COURSE SYLLABUS ABSTRACT

6-05-0715-07-1 "Operation of ground transport and technological machines and complexes"

Profile: Technical operation of cars

	STADY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	3	2
Semester	5	6	3
Lectures, hours	34	6	6
Practical classes (seminars), hours	34	6	6
Laboratory classes, hours	16	4	4
In-class test (seminars), hours	-	6 (2 hours)	3 (2 hours)
Exam, semester	5	6	3
Contact hours	84	18	18
Independent study, hours	96	162	162
Total course duration in hours / credit units	180/5	180/5	180/5

1. Course outline

The purpose of the discipline is to form specialists who are able to reasonably and efficiently apply existing and master new methods of research and design of mechanisms and machines applied to any practical tasks during their operation.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- basic theoretical positions of the structure, kinematics, dynamics and control of machine systems, individual machines and mechanisms;
- measuring equipment for determining kinematic and dynamic parameters of mechanisms and machines;
- principles of designing the main types of mechanisms;

be able to:

- make calculation schemes (models) of machines and mechanisms suitable for solving technical problems, performing kinematic and dynamic calculations, apply the results of calculations to obtain optimal characteristics of mechanisms and machines;
- develop algorithms for calculating parameters on a PC, perform specific calculations;

to possess a skill::

- design, analysis and synthesis of various mechanisms;
- designing the main types of mechanisms;
- calculation of the dynamic loading of machines and mechanisms.

3. Competencies

The development of this academic discipline should ensure the formation of the following competencies:

- Have skills in structural analysis of mechanisms

4. Requirements and forms of midcourse evaluation and summative assessment

The current certification is carried out in the form of written test assignments, oral protection of laboratory work. The intermediate certification is conducted in the form of an examination in writing. The exam ticket includes two theoretical questions and one task.