THEORY OF MECHANISMS AND MACHINES

(course title)

COURSE SYLLABUS ABSTRACT

6-05-0715-03 Cars, tractors, mobile and technological complexes
Specialization: Computer engineering in construction and road engineering
6-05-0715-03 Automobiles, tractors, mobile and technological complexes
specialization: Computer engineering in the automotive industry
6-05-0715-03 Cars, tractors, mobile and technological complexes
specialization: Computer engineering in lifting and transport engineering
6-05-0715-07 Operation of land transport and technological machines and complexes
specialization: Technical operation of cars and car service

	STUDY MODE	
	full-time	
	6-05-0715-03	**6-05-0715-07**
Year	3	3
Semester	5	5
Lectures, hours	34	34
Practical classes (seminars), hours	34	34
Laboratory classes, hours	16	16
Course paper, semester	5	–
Exam, semester	5	5
Contact hours	84	84
Independent study, hours	96	96
Total course duration in hours / credit units	180/5	180/5

1. Course outline

The academic discipline includes training future engineers in general methods of research and design of circuits of mechanisms applicable to any practical tasks. This knowledge is necessary not only when designing new mechanisms, but also for their proper operation.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

– basic theoretical principles of structure, kinematics, dynamics and control of machine systems, individual machines and mechanisms;

– measuring equipment for determining the kinematic and dynamic parameters of mechanisms and machines;

– principles of designing the main types of mechanisms;

be able to:

– to make calculation schemes (models) of machines and mechanisms suitable for solving technical problems, performing kinematic and dynamic calculations, apply the calculation results 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 dynamic loading of machines and mechanisms.

3. Competencies

Use methods of research, construction, analysis of kinematics and dynamics of mechanisms and machines, calculate mechanical systems of cars, tractors, mobile and technological complexes.

Possess the skills of structural analysis of mechanisms.

4. Requirements and forms of midcourse evaluation and summative assessment

-oral and written: protection of laboratory work;

- written: lecture survey, test assignments, exam.