MOTOR VEHICLE TRANSMISSIONS
(course title)

COURSE SYLLABUS ABSTRACT

6-05-0715-03 - "Cars, tractors, mobile and technological complexes"
Profession: Computer engineering in the automotive industry

	STUDY MODE
	full-time
Year	3
Semester	6,7
Lectures, hours	50
Practical classes (seminars), hours	32
Laboratory classes, hours	32
Pass/fail, semester	6
Exam, semester	7
Course project, semester	7
Contact hours	114
Independent study, hours	112
Total course duration in hours / credit units	216/6

1. Course outline

The purpose of the academic discipline is to develop in students' knowledge, skills and abilities in the analysis and selection of vehicle parameters, components and mechanisms of its transmission, ensuring the specified traction-speed and fuel-economic properties of the designed vehicle and the required reliability indicators, as well as the students' mastery of methods for - design, calculation and optimization of transmission parts and its components.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- general principles of designing automobile transmissions;
- methods and algorithms for the synthesis and analysis of kinematic diagrams of transmissions, analysis of load, strength and durability of transmission parts;
- methods for designing transmission mechanisms.

be able to:

- determine the main parameters of transmission mechanisms;
- carry out synthesis of kinematic diagrams of gearboxes, analysis of kinematic characteristics and load;
- determine the parameters of gears and transmission control mechanisms;
- develop design solutions for transmission mechanisms and parts;
- use application software in the analysis and synthesis of transmission mechanisms.

to possess a skill:

- methods for determining load conditions, synthesis and analysis of kinematic diagrams of transmissions, load analysis, assessment of the strength and durability of transmission parts;
- methodology for designing and constructing of transmission mechanisms.

3. Competencies

Perform design work and use computer-aided design (CAD) systems, including computer graphics, in design and engineering organizations, in design and engineering departments of enterprises and firms designing and manufacturing cars and vehicles.

4. Requirements and forms of midcourse evaluation and summative assessment

The form of current certification is a test, an exam.