

**SERVICE MAINTENANCE AND REPAIR OF VEHICLES**  
(course title)

**COURSE SYLLABUS ABSTRACT**  
**of higher education institution speciality**

1-37 01 06 «Technical operation of vehicles (by directions)»  
(speciality code and name)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	5	4
Semester	8	9	7
Lectures, hours	28	8	8
Laboratory classes, hours	14	4	4
Practical classes (seminars), hours	14	6	4
In-class test (semester, hours)		9 (2 hours)	7 (2 hours)
Exam, semester	8	9	7
Contact hours	56	20	18
Independent study, hours	44	80	82
Total course duration in hours / credit units	100/2,5	100/2,5	100/2,5

1. Course outline

The academic discipline includes the acquisition of knowledge by students of technological diagnostics, maintenance and repair of cars in the conditions of organizing a car service and motor transport organizations that meets the current requirements of technical regulations and recommendations of manufacturers of cars and their components. In addition, the discipline additionally considers diagnostic and technological equipment, tools and devices, as well as materials necessary for the successful implementation of all operations provided for by technological documentation.

2. Course learning outcomes

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

technical regulatory legal acts regulating the work of car service organizations and the procedure for carrying out work on the state technical inspection of vehicles at diagnostic stations; the procedure for receiving and issuing cars, operating in car service organizations; main types of documentation, workflow scheme in the organization of a car service; technology for performing cleaning and washing, anti-corrosion, diagnostic, bodywork and painting, polishing and other maintenance and repair of vehicles; classification, device and principle of operation, as well as the features of the operation of diagnostic and technological equipment, tools and devices necessary to perform work in the organization of a car service; marking, scope and procedure for the use of materials for the performance of work in the organization of a car service; guarantees and responsibility of the organization of a car service when servicing cars; car service quality control system; requirements for safety and labor protection when performing various work in the organization of a car service.

be able to:

draw up technological maps for diagnosing, servicing and repairing vehicles, indicating recommendations for choosing the most effective technological equipment, tools and necessary materials; work with technical regulations and technological documentation of manufacturers of vehicles, equipment and materials; work with electronic catalogs of technical information of car manufacturers (TIS, ELSA type) and independent developers (Autodata type), databases of manufacturers and spare parts suppliers (ETKA type); correctly interpret the information presented in the form of oscillograms and histograms of signals in various electrical circuits of cars obtained using a motor tester and / or a diagnostic car scanner; carry out work on express diagnostics of the chassis and control systems of vehicles using diagnostic lines and stands (such as Sherpa Safeline).

possess:

skills in working with the main types of diagnostic and technological equipment, tools and devices necessary to perform work in the organization of a car service; skills in working with documentation in both paper and electronic form; skills in creating and managing an electronic turnover document system in a car service organization; skills in diagnosing complex technical systems such as an internal combustion engine, gearbox, etc.

3. Competencies

AC - 1 Be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems of the technical operation of vehicles. AC-3 Possess research skills. AC-4 Be able to work independently. AC - 5 Be able to generate new ideas (be creative). AC-6 Have an interdisciplinary approach to problem solving. AC - 7 Have skills related to the use of technical devices, information management and computer work. AC - 8 Possess oral and written communication skills. AC - 9 Be able to learn, improve their skills throughout their lives. SPC-2 Be capable of social interaction. SPC-5 Be capable of criticism and self-criticism. SPC-6 Be able to work in a team. PC-4 Analyze and evaluate collected data. PC-22 To select the optimal modes of operation of road transport, taking into account operating conditions to improve the technical and economic indicators of their work. PC-23 Develop technological documentation, take part in the creation of standards and regulations. PC-24 Make engineering decisions to improve the structure of the production and technical base of road transport organizations and optimize logistics. PC-25 Ensure the inspection of the technological equipment of the motor transport organization in a timely manner, carry out operational activities. PC-32 Identify and analyze the causes of failures and malfunctions of units, assemblies, parts of maintenance equipment, diagnostics and repair of vehicles. PC-35 Ensure timely repair of process equipment, check its condition after repair, maintain the necessary technological documentation for repairs. PC-36 Prepare process equipment for certification.

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

oral-written form: reports on practical work with their oral defense, reports on laboratory work with their oral defense exam.