

MACHINE PARTS

COURSE SYLLABUS ABSTRACT

6-05-0715-07 Operation of ground transport and technological machines and complexes
(speciality code and name)

Technical operation of vehicles and car service

Car service
(concentration)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	3,4	2,3
Semester	5,6	6,7	4,5
Lectures, hours	68	12	12
Practical classes (seminars), hours	32	8	8
Laboratory classes, hours	32	8	8
Course project, semester	6	7	5
Pass/fail, semester	5	6	4
Exam, semester	6	7	5
Contact hours	132	28	28
Independent study, hours	156	260	260
Total course duration in hours / credit units	288/8		

1. Course outline

The discipline “Machine Parts” studies the interaction of machine parts for general mechanical engineering purposes and the physical processes accompanying their work, as well as the types and nature of destruction of parts and, on this basis, the determination of criteria for their calculation; fundamentals of engineering methods for designing machine parts that provide the required reliability indicators.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know: designs, types, materials and methods of manufacturing parts of general purpose machines; interaction of parts and physical processes accompanying their operation, taking into account resistance to operational factors, types and nature of destruction of parts and determination of criteria for their performance and calculation; engineering methods for calculating machine parts and assemblies that ensure their required reliability; methods of computer-aided design and construction using computer graphics.

be able to: perform engineering calculations of machine parts and assemblies that ensure their required reliability and durability; design parts, components and drives for general machine-building purposes; carry out design development of parts, assemblies and drives using design standards for standard projects, standards and other regulatory materials.

to possess a skill: justification of the designs of components and machine parts; automated design and construction of standard machine parts; engineering calculation of machine parts and assemblies that ensure their required reliability; mechanism design; calculations of main mechanical transmissions and connections.

3. Competencies

CK-5 To select standards for the accuracy of geometric parameters when designing products, methods and measurements, as well as deviations of geometric parameters of products.

CK-8 Carry out calculations and analysis of structures with the preparation of design documentation for products.

4. Requirements and forms of midcourse evaluation and summative assessment

Current certification is carried out in oral and written form (test assignments, defense of individual assignments completed as part of independent work, defense of laboratory work, defense of course work.

Interim certification is carried out in written form (exam) and in oral and written form (test).