AUTOMOTIVE ENGINES
(course title)

COURSE SYLLABUS ABSTRACT

6-05-0715-07 "Operation of ground transport and technological machines and complexes"
(by areas)
(specialty code and name)
Technical Maintenance of Automobiles,
Vehicle service
(concentration)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	3	3
Semester	6	7	6
Lectures, hours	34	8	8
Practical classes (seminars), hours	16	4	4
Laboratory classes, hours	34	8	8
Exam, semester	6	7	6
Contact hours	82	16	16
Independent study, hours	132	196	196
Total course duration in hours / credit units	216/6		

1. Course outline
Workflows occurring in the cylinders of automobile engines, kinematics and dynamics of the crank mechanism, design principles and methods for calculating the main mechanisms and systems of the engine.

2. Course learning outcomes
Upon completion of the course, students will be expected to
know:
- the essence of theoretical and real cycles in internal combustion engines; - principle of operation, design features, performance indicators of modern automobile engines and prospects for their development; - modes and operating conditions of automobile engines and their elements; - indicators of environmental safety and efficiency of automobile engines; - principles of design and calculation of vehicle engines;
be able to:
- evaluate the degree of perfection of automobile engines; - choose the optimal vehicle with the appropriate engine for the given operating conditions; - to ensure the efficient operation of automobile engines and the implementation of their resource and maintainability:
to possess a skill:
- calculation of indicator parameters of internal combustion engines; - organization of engine; - calculation of basic parts and systems of automobile internal combustion engines.

3. Competencies
Carry out thermodynamic calculations of working processes, analysis of heat engineering devices of automobile engines and air conditioning systems of automobiles and conduct heat engineering measurements.
Conduct calculations of operational indicators of automobile engines.

4. Requirements and forms of midcourse evaluation and summative assessment: reports on classroom practical exercises with their oral defense; laboratory reports with their oral defense; coursework with their oral defense; examination in oral or written form.