

# **MATHEMATICS**

(course title)

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

**Speciality 1-37 01 07 «Auto Service»**

	STUDY MODE	
	full-time	part-time (shortened program)
Year	1, 2	1
Semester	1, 2, 3	1, 2
Lectures, hours	136	16
Practical classes, hours	118	20
In-class test (semester, hours)	—	1 (2 часа)
Exam, semester	1, 2	1
Pass/fail, semester	3	2
Contact hours	254	38
Independent study, hours	202	418
Total course duration in hours / credit units	456 / 12	

**1. Course outline:** linear algebra and analytic geometry, vector algebra, introduction to mathematical analysis, differential calculus of functions of one variable, differential calculus of functions of several variables, integral calculus of functions of one variable, integral calculus of functions of several variables, numerical and functional series, Fourier series and integral, ordinary differential equations, operational calculus, probability theory, mathematical statistics.

**2. Course learning outcomes.** The student who has studied the discipline must:

*know* – methods of mathematical analysis, analytical geometry, linear algebra, solution of differential equations; fundamentals of the theory of functions of a complex variable, operational calculus, field theory; basic concepts and methods of probability theory and mathematical statistics; basic mathematical methods for solving engineering problems;

*be able to* – solve mathematically formalized problems of linear algebra and analytic geometry; differentiate and integrate functions, calculate integrals over a figure, solve differential equations and systems of differential equations; set and solve probabilistic problems and perform statistical processing of experimental data; build mathematical models of physical processes;

*possess* – the main methods of processing experimental data; methods of analytical and numerical solution of algebraic and ordinary differential equations.

**3. Competencies.** UK-5: be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems in the field of car service.

**4. Requirements and forms of midcourse evaluation and summative assessment.** Current certification: ZIZ – protection of an individual task; KR – control work; PKU – intermediate control of progress. Intermediate certification: exam. Assessment of the level of knowledge of the student and the formation of competencies in all forms of control is carried out on a ten-point scale.