M A T H E M A T I C S

(course title)

COURSE SYLLABUS ABSTRACT

1-37 01 02 « Jack Transport, Construction, Road Machines and Equipment

(speciality code and name)

(by directions)»

(speciality code and name)

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(specialisation code and name)

	STUDY MODE
	full-time
Year	1, 2
Semester	1, 2, 3
Lectures, hours	136
Practical classes (seminars), hours	118
Exam, semester	1, 2, 3
Contact hours	254
Independent study, hours	178
Total course duration in hours / credit units	432/12

1. Course outline: linear algebra and analytic geometry, vector algebra, introduction to mathematical analysis, differential and integral calculus of function of one and many variables, differential equations, numerical and functional (power) series, fundamentals of the theory of functions of a complex variable, operational calculus, theory probabilities and elements of mathematical statistics.

2. Course learning outcomes

    Upon completion of the course, students will be expected to

      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 figure integrals, 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:

      - main methods of processing experimental data;

      - methods of analytical and numerical solution of algebraic and ordinary differential equations;

      - skills of integral calculus of functions of one and several variables.

3. Competencies

Codes of generated competencies	Names of competencies being formed
UC-2	Solve standard tasks of professional activity based on the use of information and communication technologies.
BPC-1	Apply knowledge of natural sciences for experimental and theoretical study, analysis and solution of applied engineering problems.

4. Requirements and forms of midcourse evaluation and summative assessment

Current certification: PIT - protection of an individual task; CW - control work; ICP - intermediate control of progress. Intermediate attestation: exam, test.

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.