

MATHEMATICS

COURSE SYLLABUS ABSTRACT of higher education institution speciality

Specialty 1-54 01 02 «Methods and Devices for Quality Control and Objects Condition Diagnostics»

Specialty direction 1-54 01 02 02 Non-destructive testing of materials and articles

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

1. Course outline.

The purpose of the training discipline is to form specialists who are able to reasonably and efficiently apply mathematical methods of calculation and analysis in the study of fundamental physical, general technical and special disciplines. The objectives of the educational discipline are: through mathematics, as part of the general human culture, to contribute to the formation of a highly moral citizen of society; develop the conviction among students that without a deep study of mathematics they will not be able to master the special disciplines necessary in their future activities, that is, they will not be able to become highly qualified specialists; teach to use mathematical methods in solving formalized problems; to teach to apply mathematical knowledge to the study of real processes and the solution of professional problems; to develop creative thinking abilities among students, using mathematics as a way of knowing the world around them; develop the ability to independently expand mathematical knowledge and conduct mathematical analysis of engineering problems; to develop logical and traditimic thinking in students.

2. Course learning outcomes. Upon completion of the course, students will be expected to

- know: basic concepts, definitions and methods of linear and vector algebra, analytical geometry, differential and integral calculus, theory of numerical and functional (power) series, theory of differential equations and their systems, and probability theory;
- be able: analyze and apply theoretical knowledge in solving typical educational problems and problems of increased complexity, draw reasonable conclusions;
- possess: mathematical tools of the training discipline in solving practical problems that may arise in professional activity.

3. Competencies

Generated competencies codes	Names of competencies to be formed
BPC-1	Master basic concepts and methods of mathematics, apply the acquired knowledge to solve problems of theoretical and practical orientation

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

№	Type of valuation funds	Number of sets
1	Questions for the exam	2
2	Examination cards	2
3	Individual tasks	9
4	Control tasks for performance of control works	8
5	Knowledge assessment test (e) programs	1