MATHEMATICS

COURSE SYLLABUS ABSTRACT

6-05-0714-02 Mechanical engineering technology,
metal-cutting machines and tools

Mechanical Engineering Technology
(concentration)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	1, 2	1, 2	1
Semester	1, 2, 3	1, 2, 3	1, 2
Lectures, hours	118	26	18
Practical classes (seminars), hours	118	24	18
In-class test (semester, hours)	-	1 (2 hours), 2 (2 hours)	1 (2 hours), 2 (2 hours)
Exam, semester	1, 2	1, 2	1
Pass/fail, semester	3	3	2
Contact hours	236	54	38
Independent study, hours	196	378	394
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 functions of one and many variables, differential equations, numerical and functional (power) series, functions of a complex variable, probability theory and elements of mathematical statistics.

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, analytic geometry, differential and integral calculus, theory of numerical and functional (power) series, theory of differential equations, complex variable functions, probability theory, mathematical statistics;

be able to: analyze and apply theoretical knowledge when solving typical academic problems and problems of increased complexity, draw valid conclusions;

possess: the tools of the discipline in solving practical problems that may arise in the study of natural science academic disciplines and in solving applied engineering and construction problems.

3. Competencies. BPC-1.1. Possess the basic concepts and methods of linear algebra, analytical geometry, differential and integral calculus, apply the acquired knowledge to solve engineering problems in mechanical engineering.

4. Requirements and forms of midcourse evaluation and summative assessment. Midcourse evaluation: ZIZ - protection of individual assignments; CR - control work; ICS - intermediate control of progress. Summative assessment: exam. Assessment of the level of student knowledge and competence at all forms of control is made on a ten-point scale.

MATHEMATICS

COURSE SYLLABUS ABSTRACT

6-05-0714-02 Mechanical engineering technology,
metal-cutting machines and tools

Equipment and technologies for highly efficient material processing processes
(concentration)

	STUDY MODE
	full-time
Year	1, 2
Semester	1, 2, 3
Lectures, hours	118
Practical classes (seminars), hours	118
Exam, semester	1, 2
Pass/fail, semester	3
Contact hours	236
Independent study, hours	196
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 functions of one and many variables, differential equations, numerical and functional (power) series, functions of a complex variable, probability theory and elements of mathematical statistics.

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, analytic geometry, differential and integral calculus, theory of numerical and functional (power) series, theory of differential equations, complex variable functions, probability theory, mathematical statistics;

be able to: analyze and apply theoretical knowledge when solving typical academic problems and problems of increased complexity, draw valid conclusions;

possess: the tools of the discipline in solving practical problems that may arise in the study of natural science academic disciplines and in solving applied engineering and construction problems.

3. Competencies. BPC-1.1. Possess the basic concepts and methods of linear algebra, analytical geometry, differential and integral calculus, apply the acquired knowledge to solve engineering problems in mechanical engineering.

4. Requirements and forms of midcourse evaluation and summative assessment. Midcourse evaluation: ZIZ - protection of individual assignments; CR - control work; ICS - intermediate control of progress. Summative assessment: exam. Assessment of the level of student knowledge and competence at all forms of control is made on a ten-point scale.

MATHEMATICS

COURSE SYLLABUS ABSTRACT

6-05-0714-02 Mechanical engineering technology,
metal-cutting machines and tools

Technological equipment for machine-building production
(concentration)

	STUDY MODE
	full-time
Year	1, 2
Semester	1, 2, 3
Lectures, hours	118
Practical classes (seminars), hours	118
Exam, semester	1, 2
Pass/fail, semester	3
Contact hours	236
Independent study, hours	196
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 functions of one and many variables, differential equations, numerical and functional (power) series, functions of a complex variable, probability theory and elements of mathematical statistics.

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, analytic geometry, differential and integral calculus, theory of numerical and functional (power) series, theory of differential equations, complex variable functions, probability theory, mathematical statistics;

be able to: analyze and apply theoretical knowledge when solving typical academic problems and problems of increased complexity, draw valid conclusions;

possess: the tools of the discipline in solving practical problems that may arise in the study of natural science academic disciplines and in solving applied engineering and construction problems.

3. Competencies. BPC-1.1. Possess the basic concepts and methods of linear algebra, analytical geometry, differential and integral calculus, apply the acquired knowledge to solve engineering problems in mechanical engineering.

4. Requirements and forms of midcourse evaluation and summative assessment. Midcourse evaluation: ZIZ - protection of individual assignments; CR - control work; ICS - intermediate control of progress. Summative assessment: exam. Assessment of the level of student knowledge and competence at all forms of control is made on a ten-point scale.