RKE 123 Applied Mathematics II (Spring 2026)

Lecturer: Elena Safiulina, PhD
e-mail: elena.safiulina@tktk.ee

Week	Topics	Activities
1.	Derivatives and differentials for composite functions of one variable.	Moodle test (8 credits)
2.	Logarithmic differentiation.	Moodle test (7 credits)
3.	Implicit Differentiation.	Moodle test (8 credits)
4.	Derivatives of Parametric Functions	Moodle test (8 credits)
5.	Differentials of First and Higher Orders	Moodle test (7 credits)
6.	Applications of derivatives: Geometric and physical interpretation of the derivative. Use of the concept of the derivative in solving practical and extremum problems.	Moodle test (10 credits)
7.	Indefinite integrals: Change of variable in an indefinite integral. Inegration by parts	Moodle test (8 credits)
8.	Definite integrals: Change of variable in a definite integral. Inegration by parts	Moodle test (8 credits)
9.	Applications of Definite Integrals: Finding the area of a plane figure using the definite integral. Finding the area and volume of a three-dimensional figure using the definite integral, the length of an arc of a line	Moodle test (10 credits)
10.	Definition of a differential equation, general solution and special solutions (Cauchy problem). Differential equations with separated/separable variables	Moodle test (8 credits)
11.	Applications of Differential Equations	Moodle test (10credits)
12.	Functions of several variables: Definition of a function of two variables, partial derivatives. Local extrema of a function of two variables	Moodle test (8 credits)
	RESULT	$\mathbf{max}(\sum \mathbf{tests}) = \mathbf{100}$

$51-60$ „1“ $61-70$ „2“ $71-80$ „3“ $81-90$ „4“ $91-100$ „5“