

Study programme(s): Computer Science				
Level: bachelor				
Course title: Mathematical Analysis 1				
Lecturer: Ivana Štajner-Papuga				
Status: obligatory				
ECTS: 8				
Requirements: ---				
Learning objectives Acquiring basic knowledge and skills in differential calculus and integrations for real functions of one variable, number and power series as well as in some basic ODE.				
Learning outcomes Successful students will be able to recognize the type of a problem and to apply techniques studied during the course. They will be able to use the proper software support.				
Syllabus <ul style="list-style-type: none"> • Some general mathematical concepts • Real functions of one variable • Limits • Differential calculus and integration • Number series • Power series • Basic ODE • Software support (<i>Mathematica</i> or similar) 				
Literature <ol style="list-style-type: none"> 1. V. A. Zorich, Mathematical Analysis I, Springer –selected chapters 2. F. Ayres, E. Mendelson, Schaum's Outline of Calculus, McGraw-Hill Book Company –selected chapters 				
Weekly teaching load				
Lectures: 3	Exercises: 3	Practical Exercises: 0	Student research: 0	Other: 0
Teaching methodology: <ul style="list-style-type: none"> • classical teaching methods; • demonstrations of software; • exercises. 				
Grading method (maximal number of points 100)				
Pre-exam obligations	points	Final exam	points	
<i>Written test</i>	40	<i>Oral exam</i>	<i>40</i>	
<i>Practical test</i>	20			