

Study programme(s): Applied Mathematics (MAP)			
Course title: INTRODUCTION TO ANALYSIS (P101)			
Lecturer(s): Milana Čolić			
Course status: compulsory			
ECTS points: 6			
Requirements:			
Learning Objectives Introduction to the basic notions of mathematical analysis, the set of real numbers and real functions of a single real variable, sequences and series of real numbers, as well as the notion of limit values and continuousness of functions of a single real variable.			
Learning Outcomes The student is expected to master the understanding of the basic notions of mathematical analysis: real numbers, sequences, series and functions, as well as to master operational techniques for examining the analytical properties of sequences, series and functions.			
Syllabus <i>Theoretical instructions</i> The set of real numbers. Sequences of real numbers, monotonicity, boundedness, convergence, Cauchy sequences. Series of real numbers, convergence, and summation of series. Real functions of a single variable; limit values, asymptotes. Continuity, local and global properties of continuous functions. Uniform continuity. <i>Practical instructions</i> Tasks and problems in practical teaching follow the content of theoretical instructions. Well-chosen exercises will illustrate the theoretical results through examples and applications, and students will adopt the working techniques.			
Literature 1. Nenad Teofanov, Uvod u analizu , skripte, PMF, 2019. 2. Ljiljana Gajic, Predavanja iz uvoda u analizu , PMF, 2004. 3. Đurđica Takači, Arpad Takači, Zbirka zadataka iz analize 1 – prvi deo , PMF, 2008. 4. James Stewart, Calculus - Early Transcendentals , 8th ed., Cengage Learning, 2016.			
Number of active classes		Lectures:2	Exercises:3
Teaching methods Exposition of the theoretical fundaments with focus on examples and applications. Applications of theory through various exercises and problem-solving sessions.			
Grading (maximum number of points 100)			
Pre-exam obligations		Points	Final exam
Points			
colloquia		50	oral exam
Points			50