Study program: Mathematics

Type and level of studies: Undergraduate academic studies

Course unit: Analysis 2

Theacher in charge: Assistant Professor, Suzana Aleksic

Language of instruction: English

ECTS: 9 (nine)

Prerequisites: /

Semester: *Summer Semester*

Course unit objective: This course covers some fundamentals of mathematical analysis: differentiability, Riemann integral, convergence of series. It shows the utility of abstract concepts and teaches an understanding and construction of proofs.

Course unit contents

Lectures: Derivatives, the chain rule; Rolle's theorem; Mean value theorem;Taylor's theorem; *L'*Hospital's rule; Riemann-Stjeltjes integral: definition, basic properties; Fundamental theorems of calculus; Convergence of series of numbers using the Cauchy criterion ,the comparison, ratio, and root tests; Convergence of alternating series; Dirichlet's and Abel's test.

Practical teaching: study research work

Literature

1. W. Rudin, *Principles of Mathematical Analysis (International Series in Pure and Applied Mathematics)*, 3rd ed. McGraw-Hill, 1976.
2. M. Spivak, *Calculus*, 4th ed. Publish or Perish, 2008.

Number of active teaching hours				**Other classes**
Lectures: 3	Practice: 3	Other forms of classes: mentoring system 1	Independent work: 0	

Teaching methods

Lectures in traditional manner using black board, discussions, consultation with the professor

Examination methods (maximum 100 points)

Exam prerequisites	**No. of points:**	**Final exam**	**No. of points:**
Student's activity during lectures	**4**	oral examintions	**50**
tests	**46**		

Grading system

Grade	**No. of points**	**Description**
10	**91-100**	Excellent
9	**81-90**	Exceptionally good
8	**71-80**	Very good
7	**61-70**	Good
6	**51-60**	Passing
5	**0-50**	Failing