

Study programmes: MASTER STUDIES - Mathematics			
Course name: Selected topics of global analysis			
Lecturers: Darko Milinković, Nebojša Lažetić			
Status: Optional			
ECTS: 8			
Attendance prerequisites: No prerequisites.			
Course aims: Acquisition of knowledge in mathematical analysis on smooth manifolds. Preparing students for possibly master or research work in this or some related area of analysis, geometry or topology.			
Course outcome: The student should learn the basics of calculus on smooth manifolds, as well as the relation of analytical problems with topology and geometry.			
Course content: Smooth manifolds. Vector fields and differential equations defined by them. One-parameter groups of diffeomorphisms. Differential and derivative of mappings on manifold. Regular and singular points and values. Sard's theorem. Differential forms. De Rham cohomologies. Integration of differential forms. Stokes' theorem and applications. Degree of mapping. Intersection index.			
Literature:			
1. V. Dragović, D. Milinković: Analiza na mnogostrukostima, Matematički fakultet, Beograd 2003.			
Number of hours: 7	Lectures: 3	Tutorials: 2	Laboratory: -
Research: 2			
Teaching and learning methods: Frontal / Tutorial			
Assessment (maximal 100 points)			
Course assignments	points	Final exam	points
Lectures	30	Written exam	35
Exercises / Tutorials	-	Oral exam	35
Colloquia	-	Written-oral exam	-
Essay / Project	-		