

Study programmes: PhD studies – Mathematics – Analysis and differential equations			
Course name: 3M126 Matrix Analysis			
Lecturers: Danko Jocić			
Status: Optional			
ECTS: 9			
Attendance prerequisites: -			
Course aims: Mastering of notions and methods of matrix analysis.			
Course outcome: Student should understand and be able to apply notions and techniques of matrix analysis.			
Course content: Majorisation and Doubly Stochastic Matrices. Variational Principles and Inequalities for Singular values and Eigenvalues of Matrices. Symmetric Norms. Operator Monotone and Operator Convex Functions. Matrix Inequalities. Perturbation of Matrix Functions.			
Literature:			
1. R. Bhatia, Matrix Analysis, Graduate Text in Mathematics, Springer 169, 1997.			
2. Q. Zhan, Matrix Inequalities, Lecture Notes in Mathematics, Springer 1790, 2002.			
3. B. Simon, Trace Ideals and their Applications, Cambridge University Press, London, 1979.			
Number of hours: 10	Lectures: 4	Research: 6	
Teaching and learning methods: Frontal / Individual / Research			
Assessment (maximal 100 points)			
Course assignments	Points	Final exam	points
Lectures		Written exam	
Exercises / Tutorials	50	Oral exam	50
Colloquia		Written-oral exam	
Essay / Project			