

Study programmes: PhD studies – Mathematics – Analysis and differential equations			
Course name: 3M171 Asymptotic analysis			
Lecturers: Miroslav Pavlović			
Status: Optional			
ECTS: 9			
Attendance prerequisites: -			
Course aims: Mastering of notions and methods of asymptotic analysis.			
Course outcome: Student should understand and be able to apply notions and techniques of asymptotic analysis.			
Course content: Asymptotic space. Asymptotic expansions and series. Hardy field. Summability. Abel's, Tauber's, Mercer's propositions. Regularly varying functions.			
Literature:			
1. G.H.Hardy, Orders of infinity, Cambridge tracts 12, Cambridge University Press, 1910.			
2. N. Bourbaki, Fonctions d`une variable réelle, Hermann, Paris, 1951.			
3. G.H. Hardy, Divergent series, Oxford University Press, London, 1949.			
4. N. Birgham, C. Goldie, J. Teugels, Regular variation, Cambridge University Press, New York, 1987.			
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			