Program		Type of studies (cycle)	Third cycle
		Name of the program	SEE Doctoral Studies in Mathematical Sciences

Course					
Course title		**Combinatorics**			
Course code	Semester	Course status		ECTS credits	Contact hours
PMAT 650					30
Teaching staff	Teacher	Prof. Dr. Amela Muratović-Ribić			
	Other staff				
Course goals		Goal is to give wide knowledge of combinatorics to student so they can choose topics for their future research and use their knowledge in future.			

Course content/topics

- Graph coloring and Ramsey theorem, Turans theorem i extremal graphs
- Systems of distinct representatives
- De Brujin sequences
- (0,1) problems and matrices
- Permanents
- Van der Waerden conjecture
- Partitions
- Latin squares, Hadamard matrices,
- Designs, Projective and combinatorial geometries, Association schemes
- Difference sets and automorphisms
- Polya theory of counting
- Algebraic techniques in graph theory

LITERATURE	Grading			
		Criterion	Points	Cut-off points
[1] A Course in Combinatorics, Lint, Wilson, Cambridge, 2001 [2] Enumerative Combinatorics, Stanley, R.P., Cambridge Studies in Advanced Mathematics, 2001 [3] Combinatorial Theory, Aigner., Springer, 1997	1.	Homework assignment	30	17
	2.	Project	20	13
	3	Final exam	50	25
		Total	100	55