

Program	Level		Third cycle			
	Name of the program		SEE Doctoral Studies in Mathematical Science			
COURSE						
Course title	Theory of harmonic functions					
Course code	Semester	Course status	ECTS	Contact (L+AE+LE)	hours	
PMAT 620	I	Elective course	10	30		
Lecturer						
Course Goals	A main goal of this subject is to teach a student a basic tool from the theory of harmonic functions which is needed to understand research papers in this area.					
COURSE CONTENT						
<ul style="list-style-type: none"> - A basic properties of harmonic functions - Bounded harmonic functions - Positive harmonic functions - Kelvin transformation - Harmonic polynomials - Harmonic Hardy spaces - Harmonic functions on the upper half space - Harmonic Bergman spaces - The decomposition theorem for harmonic functions - Annular regions - A Dirichlet problem and boundary behavior 						
LITERATURE			GRADING			
[1] S. Axler, P. Bourdon, W. Ramey, Harmonic function theory, Springer-Verlag, New York, 2001.			Criterion		Maximum points	Minimum points
			1.	Assigments		
			2.	Projects	40	20
			3.	Final exam	60	35
			Total		100	55