

Program		Type of studies (cycle)	Third cycle		
		Name of the program		SEE Doctoral Studies in Mathematical Science	
Course					
Course title		Generalized functions			
Course code	Semester	Course status	ECTS credits	Contact hours	
	I		10	30	
Teaching staff	Teacher	Prof. Dr. Arpad Takači			
	Other staff	Prof. Dr. Stevan Pilipović			
Course goals	The main goal of this subject is to bring a student a basic tool in the theory of generalized functions which is needed to understand papers in this area of research.				
Course content/topics					
<ul style="list-style-type: none"> • Dirac's delta function • A space of test functions and a space of distributions • Operations with distributions • Even, odd and positive distributions • Convergence of sequences and series of distributions • Periodical distributions • Relation between distributions from physics and mathematics • Derivatives of distributions and a derivative of a function in distributional sense • Derivative of a product of a smooth functions and a distribution. • Distributions and differential equations • Application of distributions in Sobolev spaces 					
LITERATURE		Grading			
P. K. Bhattacharyya, <i>Distributions. Generalized functions with applications in Sobolev spaces</i>, Walter de Gruyter, Berlin, 2012.			Criterion	Points	Cut-off points
		1.	Written assignment		
		2.	Project		
		3.	Final exam		
		Total			