Program	Level		Third cycle	
	Name of the program		SEE Doctoral Studies in Mathematical Science	

COURSE

Course title	**General functions**			
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)
PMAT 625	I	**Elective course**	10	30
Lecturer				
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

- 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			
[1] P. K. Bhattacharyya, Distributions. Generalized functions with applications in Sobolev spaces, Walter de Gruyter, Berlin, 2012	Criterion		Maximum points	Minimum points
	1.	Assigments		
	2.	Projects	40	20
	3.	Final exam	60	35
		Total	100	55