



COURSE: Functional Data Analysis		
MASTER: Mathematical Engineering	YEAR: 2015-2016	TERM: 2

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		Special room for session (computer classroom, audio-visual classroom...)	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS		DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Introduction to functional analysis I	x			Master Class	1,5	3
1	2	Exercises		x	x	Exercises and computer work	1,5	
2	3	Introduction to functional analysis II	x			Master Class	1,5	3
2	4	Exercises		x	x	Exercises and computer work	1,5	
3	5	Formal setting for learning. Introduction to RKHS.	x			Master Class	1,5	3
3	6	Exercises on RKHS		x	x	Exercises and computer work	1,5	
4	7	Reproducing Kernel Hilbert Spaces	x			Master Class	1,5	3
4	8	Exercises on RKHS II		x	x	Exercises and computer work	1,5	
5	9	More on Reproducing Kernel Hilbert Spaces	x			Master Class	1,5	3
5	10	Exercises on RKHS III		x	x	Exercises and computer work	1,5	

6	11	Regularization problems and Representer Theorem	x			Master Class	1,5	3
6	12	Exercises on Regularization problems			x	Exercises and computer work	1,5	
7	13	Support Vector Machines with Applications I	x			Master Class	1,5	3
7	14	Exercises on SVM			x	Exercises and computer work	1,5	
8	15	Support Vector Machines with Applications II	x			Master Class	1,5	
8	16	Exercises on SVM			x	Exercises and computer work	1,5	
9	17	Functional PCA	x			Master Class	1,5	
9	18	Exercises on FPCA			x	Exercises and computer work	1,5	
10	19	Neural Networks: Backpropagation NN	x			Master Class	1,5	
10	20	Exercises on Neural Networks			x	Exercises and computer work	1,5	
11	21	Neural Networks: Self Organizing Maps	x			Master Class	1,5	
11	22	Exercises on SOMs		x	x	Exercises and computer work	1,5	
12	23	Distancias for functional data	x			Master Class	1,5	
12	24	Exercises		x	x	Exercises and computer work	1,5	
13	25	Distancias for functional data: distributions	x			Master Class	1,5	
13	26	Exercises		x	x	Exercises and computer work	1,5	
14	27	Training for final homework		x	x	Exercises and computer work	1,5	
14	28	Training for final homework II		x	x	Exercises and computer work	1,5	

Subtotal 1 **42**

Total 1 (Hours of class plus student homework hours between weeks 1-14)

15		Tutorials, handing in, etc						3
16		Assessment						
17								
18								

Subtotal 2 **3**

Total 2 (Hours of class plus student homework hours between weeks 15-18)

TOTAL (Total 1 + Total 2)							150
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