



COURSE: Advanced Methods in Matrix Analysis

MÁSTER: Ingeniería Matemática

YEAR: 1º

TERM: 1º

14 sesiones durante 14 semanas

WEEKLY PLANNING									
WEEK	SESSION	DESCRIPTION	GROUP		#1	#2	WEEKLY PROGRAMMING FOR STUDENTS		
			G	P			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	CHAPTER 1: Basic Matrix Analysis					Personal study (*1, see Notes at the end) Recommended exercises(*2,*3 see Notes at the end)	3	7
2	2	CHAPTER 1: Basic Matrix Analysis					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
3	3	CHAPTER 2: Vector and matrix norms					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
4	4	CHAPTER 2: Vector and matrix norms					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
5	5	CHAPTER 3: LU and QR Factorizations					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
6	6	CHAPTER 3: LU and QR Factorizations					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
7	7	CHAPTER 4: Canonical forms under similarity					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
8	8	CHAPTER 4: Canonical forms under similarity Test on Chapters 1 to 4					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
9	9	CHAPTER 5: Normal and hermitian matrices					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7

10	10	CHAPTER 5: Normal and hermitian matrices					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
11	11	CHAPTER 6: Singular value decomposition and the pseudoinverse					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
12	12	CHAPTER 7: Matrix perturbation theory: linear systems					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
13	13	CHAPTER 7: Matrix perturbation theory: eigenvalues. General theory					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
14	14	CHAPTER 8: Matrix perturbation theory: eigenvalues of symmetric matrices and singular values. Test on Chapters 5 to 8					Personal study (*1, see Notes at the end) Recommended exercises (*2,*3 see Notes at the end)	3	7
Subtotal 1								42	98
Total 1 (Hours of class plus student homework hours between weeks 1-14)								140	

15		Extra sessions Tutorials, handling in, etc							10
16		Assessment, evaluation preparation							10
17		Final Test							
18									
Subtotal 2									20
Total 2 (Hours of class plus student homework hours between weeks 15-18)									

TOTAL (Total 1 + Total 2)								160	
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Notes:

(*1) Study the corresponding sessions of the selected books or notes.

(*2) The student will work on selected exercises from of the selected books or notes.

(*3) Selected exercises will be solved in class.

#1 SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)

#2 Indicate YES/NO If the session needs 2 teachers