uc3m | Universidad Carlos III de Madrid
Vicerrectorado de Estudios
Apoyo a la docencia y gestión del grado

COURSE: Linear Geometry		
DEGREE: Applied Mathematics and Computing	YEAR: 1	TERM: 2

WEEKLY PLANNING

WEEK	SESSION	DESCRIPTION	TEACHING (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS		DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)
1	1	Eigenvalues and eigenvectors: diagonalization of matrices and Schur's triangularization	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	2	Exercises on eigenvalues and eigenvectors, diagonalization of matrices and Schur's triangularization		X		Solving exercises suggested by the teacher	1,66	
2	3	Eigenvalues and eigenvectors: diagonalization of matrices and Schur's triangularization	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	4	Exercises on eigenvalues and eigenvectors, diagonalization of matrices and Schur's triangularization		X		Solving exercises suggested by the teacher	1,66	
3	5	The Jordan canonical form	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	6	Exercises on the Jordan canonical form		X		Solving exercises suggested by the teacher	1,66	
4	7	The Jordan canonical form	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	8	Exercises on the Jordan canonical form		X		Solving exercises suggested by the teacher	1,66	
5	9	Normal matrices and their spectral theorem	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	10	Exercises on normal matrices and their spectral theorem. MID-TERM EXAM ON THE MATERIAL EXPLAINED IN WEEKS 1-4		X		Solving exercises suggested by the teacher	1,66	

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	TEACHING (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS		DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)
6	11	Positive definite matrices	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	12	Exercises on positive definite matrices		X		Solving exercises suggested by the teacher	1,66	
7	13	Bilinear and quadratic forms	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	14	Exercises on bilinear and quadratic forms		X		Solving exercises suggested by the teacher	1,66	
8	15	The singular value decomposition	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	16	Exercises on the singular value decomposition		X		Solving exercises suggested by the teacher	1,66	
9	17	Affine spaces and their applications	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	18	Exercises on affine spaces and their applications.		X		Solving exercises suggested by the teacher	1,66	
10	19	Affine spaces and their applications	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	20	Exercises on affine spaces and their applications. MID-TERM EXAM ON THE MATERIAL EXPLAINED IN WEEKS 5-9.		X		Solving exercises suggested by the teacher	1,66	
11	21	Affine transformations	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	22	Exercises on affine transformations		X		Solving exercises suggested by the teacher	1,66	
12	23	Projective geometry and its applications	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	24	Exercises on projective geometry and its applications		X		Solving exercises suggested by the teacher	1,66	
13	25	Projective geometry and its applications	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	26	Exercises on projective geometry and its applications		X		Solving exercises suggested by the teacher	1,66	
14	27	Conic sections and quadric surfaces	X			Study and understanding of the topics explained in the lecture	1,66	6,5
	28	Exercises on conic sections and quadric surfaces		X		Solving exercises suggested by the teacher	1,66	
	29	Review and solving supplementary exercises	X			Preparing final exam	1,66	3,25

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	TEACHING (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS		DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)
						Subtotal 1	**48**	**94**
						Total 1 *(Hours of class plus student homework)*	**142**	
15		Tutorials, handing in, etc				Preparing final exam	3,6	-
16		Assessment				Preparing final exam	4	10
17								
18								
						Subtotal 2	**8**	**10**
						Total 2 *(Hours of class plus student homework)*	**18**	
TOTAL (*Maximun 160 horas*)							**160**	