Universidad Carlos III de Madrid
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COURSE: CALCULUS II		
DEGREE: TELECOMMUNICATION TECHNOLOGY ENGINEERING	YEAR: FIRST	TERM: SECOND

WEEKLY PLANNING

WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room	Indicate YES/NO If the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Introduction to the subject Theory Unit 1: Euclidean space	X			No	- Euclidean space in n-dimensions. Coordinates - Topology of R^n. Curves and surfaces	1,66	6
1	2	Exercises Unit 1		X		No	- Exercises Unit 1	1,66	
2	3	Theory Unit 2.1: Function of Several Variables (I)	X			No	- Scalar and vector valued functions - Graphic representation	1,66	6
2	4	Exercises Unit 2.1		X		No	- Exercises Unit 2.1	1,66	
3	5	Theory Unit 2.2: Function of Several Variables (II)	X			No	- Concept of limit and properties - Computing limits - Continuity	1,66	6
3	6	Exercises Unit 2.2		X		No	- Exercises Unit 2.2	1,66	
4	7	Theory Unit 2.3: Function of Several Variables (III)	X			No	- Partial derivative - Equation of the tangent plane - Directional derivative	1,66	6

4	8	Exercises Unit 2.3		X		No	- Exercises Unit 2.3	1,66	
5	9	Theory Unit 2.4: Function of Several Variables (IV)	X			No	- Differentiation of vector valued functions - Jacobian matrix and determinant. Gradient - Differentiability	1,66	6
5	10	Exercises Unit 2.4		X		No	- Exercises Unit 2.4	1,66	
6	11	Theory Unit 2.5: Function of Several Variables (V)	X			No	- Chain rule - Higher order derivatives - Differential operators	1,66	6
6	12	Exercises Unit 2.5		X		No	- Exercises Unit 2.5	1,66	
7	13	Assessment Test 1			Class Room	Yes	- Assessment Test 1	1,66	
7	14	Theory Unit 3.1: Extrema of Multivariable Functions (I)	X			No	- Taylor's theorem - Hessian matrix and determinant - Critical points	1,66	6
7	15	Exercises Unit 3.1		X		No	- Exercises Unit 3.1	1,66	
8	16	Theory Unit 3.2: Extrema of Multivariable Functions (II)	X			No	- Constrained extrema - Lagrange multipliers	1,66	6
8	17	Exercises Unit 3.2		X		No	- Exercises Unit 3.2	1,66	
9	18	Theory Unit 4.1: Multiple Integrals (I)	X			No	- Integration of 2-variables fuction - Fubini's theorem	1,66	6
9	19	Exercises Unit 4.1		X		No	- Exercises Unit 4.1	1,66	
10	20	Theory Unit 4.2: Multiple Integrals (II)	X			No	- Integration of 3-variables fuction - Applications	1,66	6
10	21	Exercises Unit 4.2		X		No	- Exercises Unit 4.2	1,66	
11	22	Assessment Test 2			Class Room	Yes	- Assessment Test 2	1,66	
11	23	Theory Unit 5.1: Line and Surface Integrals (I)	X			No	- Curves in the n-dimensional euclidean space - Line integral - Conservative fields and potencial function	1,66	6
11	24	Exercises Unit 5.1		X		No	- Exercises Unit 5.1	1,66	
12	25	Theory Unit 5.2: Line and Surface Integrals (II)	X			No	- Surfaces in 3-dimensions - Surface integrals	1,66	6
12	26	Exercises Unit 5.2		X		No	- Exercises Unit 5.2	1,66	
13	27	Theory Unit 5.3: Line and Surface Integrals (III)	X			No	- Theorems of Green, Stokes and Gauss	1,66	6
13	28	Exercises Unit 5.3		X		No	- Exercises Unit 5.3	1,66	
14	29	Review of course topics	X			No	- Review of course topics	1,66	6
14	30	Exercises		X		No	- Exercises	1,66	
							Subtotal 1	**49,8**	**84**
		Total 1 *(Hours of class plus student homework hours between weeks 1-14)*						133,8	

15		Tutorials, handing in, etc.							
16									
17		Assessment						3	13,2
18									
							Subtotal 2	3	13,2

Total 2 *(Hours of class plus student homework hours between weeks 15-18)*	16,2

TOTAL *(Total 1 + Total 2. <u>Maximum 180 hours</u>)*	150