Universidad Carlos III de Madrid
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COURSE: Electrical Power Engineering Fundamentals		
DEGREE: Bachelor in Electrical Power Engineering	**YEAR: 2**	**TERM: 1**

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 Electrical Power Systems. General concepts: voltage, current, power. Kirchhoff's Laws		X		NO		1,66	
1	2	Resistors. Ideal voltage and current generators. Real generators.	X			NO		1,66	2
2	3	Resolution of basic circuits.		X		NO		1,66	
2	4	Series and parallel association of resistors. Voltage and current dividers.	X			NO		1,66	4
3	5	Resolution of basic circuits by element association.		X		NO		1,66	
3	6	Nodal analysis.	X			NO		1,66	5
4	7	Solving circuits by nodal analysis.		X		NO		1,66	
4	8	Mesh analysis.	X			NO		1,66	5

5	9	LABORATORY 1		X	LAB	NO		1,66	
5	10	Linearity, Thévenin and Norton theorems.	X			NO		1,66	5
6	11	Solving Thévenin's Theorem.		X		NO		1,66	
6	12	First Exam	X			NO		1,66	7
7	13	LABORATORY 2		X	LAB	NO		1,66	
7	14	Coils and capacitors. Introduction to altern current circuits. Sinusoidal signals and phasors.	X			NO		1,66	5
8	15	Solving exercises with sinusoidal signals.		X		NO		1,66	
8	16	Response of pasive elements to sinusoidal signals. Impedance and admitance.	X			NO		1,66	5
9	17	Solving circuits in the frequency domain.		X		NO		1,66	
9	18	Thévenin in AC. Superposition.	X			NO		1,66	5
10	19	LABORATORY 3		X	LAB	NO		1,66	
10	20	Power in AC. Power factor correction.	X			NO		1,66	5
11	21	Solving AC circuits.		X		NO		1,66	
11	22	Second exam	X			NO		1,66	7
12	23	Three-phase systems. Single-phase equivalent.		X		NO		1,66	
12	24	Power in three-phase systems. Power factor correction.	X			NO		1,66	7
13	25	Solving three-phase systems circuits		X		NO		1,66	
13	26	Measuring power in three-phase systems	X			NO		1,66	7
14	27	Solving three-phase systems circuits		X		NO		1,66	7
14	28	Third exam	X			NO		1,66	
13	29	LABORATORY 4			LAB			1,66	2
							Subtotal 1	**48,33**	**78**
		Total 1 *(Hours of class plus student homework hours between weeks 1-14)*							

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

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

TOTAL *(Total 1 + Total 2. Maximum 180 hours)*	