Universidad Carlos III de Madrid
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COURSE: ELECTRIC POWER ENGINEERING FUNDAMENTALS		
DEGREE:	YEAR: 2	TERM: 1

La asignatura tiene 29 sesiones que se distribuyen a lo largo de 14 semanas. Los laboratorios pueden situarse en cualquiera de ellas.
Semanalmente el alumnos tendrá dos sesiones, excepto en un caso que serán tres

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	Subject presentation. Introduction to the electric system. General concepts: voltage, current, power. Kirchhoff Laws.		X	Computer	NO		1,6	
1	2	Ohm's law. Resistance. Association of resistances in series and parallel. Voltage and current divider	X			NO		1,6	2
2	3	Lab session 1		X	LAB	NO	Prepare lab session 1	1,6	
2	4	Ideal voltage and current sources. Real sources. Dependent sources	X			NO		1,6	4
3	5	DC problem solving: circuit simplification		X	Computer	NO	Solve the proposed exercises	1,6	
3	6	Nodal circuit analysis.	X			NO		1,6	5

4	7	Nodal analysis problem solving		X	Computer	NO	Solve the proposed exercises	1,6	
4	8	Max. Power Transfer, Thévenin and Norton, Proportionnality & Superposition Theorems	X			NO		1,6	5
5	9	Lab session 2		X	LAB	NO	Prepare lab session 2	1,6	
5	10	Mesh method circuit analysis. DC problem solving	X			NO		1,6	5
6	11	Thévenin Theorem & Mesh analysis problem solving.		X	Computer	NO	Solve the proposed exercises	1,6	
6	12	Inductors and capacitors. Time domain solving of simple circuits. First-order transients.	X			NO		1,6	7
7	13	Problems solving		X	Computer	NO		1,6	
7	14	Fundamentals of a.c. electric power systems Complex phasors representation of sinusoidal signal.	X			NO		1,6	5
8	15	Problems solving		X	Computer	NO	Solve the proposed exercises	1,6	
8	16	Passive elements operation under sinusoidal excitation. Impedance.	X			NO		1,6	5
9	17	AC circuits problems solving in the frequency domain		X	Computer	NO	Solve the proposed exercises	1,6	
9	18	Thevenin equivalent circuit in AC	X			NO		1,6	5
10	19	Lab session 3		X	LAB	NO	Prepare lab session 3	1,6	
10	20	Power in AC. Power factor and power factor correction.	X			NO		1,6	5
11	21	Power in AC problem solving		X	Computer	NO	Solve the proposed exercises	1,6	
11	22	Three-phase systems. Line and phase current and voltage. Single-phase equivalent circuit	X			NO		1,6	7
12	23	Solving problems: three-phase systems		X	Computer	NO		1,6	
12	24	Power in a three-phase system. Reactive power compensation	X			NO		1,6	7
13	25	Power in three phase systems: problem solving		X	Computer	NO	Solve the proposed exercises	1,6	
13	26	Power measuring in three-phase systems	X			NO		1,6	7
14	27	Lab session 4		X	LAB	NO	Solve the proposed exercises	1,6	7
14	28	Three phase systems: problems solving	X			NO		1,6	7
	29	Three phase systems: problems solving		X	Computer	NO	Prepare lab session 4	1,6	2

Subtotal 1 48,33	78

Total 1 *(Hours of class plus student homework hours between weeks 1-14)*	126,33

15		Tutorials, handing in, etc							10
16									
17		Assessment						3	
18									10
							Subtotal 2	**3**	**20**
			Total 2 *(Hours of class plus student homework hours between weeks 15-18)*					23	

TOTAL *(Total 1 + Total 2. Maximum 180 hours)*	**147,33**