Universidad Carlos III de Madrid
www.uc3m.es

COURSE: ELECTRIC POWER GENERATION		
DEGREE: Bachelor in Energy Engineering	**YEAR: 3**	**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	Introduction to electric power generation	X			NO		1,6	
1	2	Introduction to electric power generation: data analysis		X		NO	Solve the proposed exercises	1,6	7
2	3	Transformers: Introduction, types and models	X					1,6	
2	4	Transformers: Introduction, types and models		X		NO	Solve the proposed exercises	1,6	7
3	5	Transformers: three-phase and per unit system	X			NO		1,6	
3	6	Transformers: three-phase and per unit system		X		NO	Solve the proposed exercises	1,6	7
4	7	Electric Machinery fundamentals	X			NO		1,6	
4	8	Electric Machinery fundamentals		X		NO	Solve the proposed exercises	1,6	7
5	9	Synchronous generator: Introduction and excitation	X			NO		1,6	7

5	10	Synchronous generator: Introduction and excitation		X		NO	Solve the proposed exercises	1,6	
6	11	Synchronous generator: operation and electric circuit	X			NO		1,6	
6	12	Synchronous generator: operation and electric circuit		X		NO	Solve the proposed exercises	1,6	7
7	13	Synchronous generator: power and capability limits	X			NO		1,6	
7	14	Synchronous generator: power and capability limits		X		NO	Solve the proposed exercises	1,6	7
8	15	LABORATORY: SYNCHRONOUS MACHINE		X	LAB	NO		1,6	
8	16	ASSESSMENT 1	X			NO	Solve the proposed exercises	1,6	7
9	17	Induction generator: equivalent circuit	X			NO		1,6	
9	18	Induction generator: equivalent circuit		X		NO	Solve the proposed exercises	1,6	7
10	19	Induction generator: power flow and tests	X			NO		1,6	
10	20	Induction generator: power flow and tests		X		NO	Solve the proposed exercises	1,6	7
11	21	Induction generator: torque-speed characteristic	X			NO		1,6	
11	22	Induction generator: torque-speed characteristic		X		NO	Solve the proposed exercises	1,6	7
12	23	Induction generator: speed regulation	X			NO		1,6	
12	24	DFIG generator: equivalent electric circuit and power flow model		X		NO	Solve the proposed exercises	1,6	7
13	25	DFIG generator: equivalent electric circuit and power flow model	X			NO		1,6	
13	26	DFIG generator: Torque-speed characteristic and speed control	X			NO	Solve the proposed exercises	1,6	7
14	27	LABORATORY: ASYNCHRONOUS MACHINE		X	LAB	NO		1,6	7
14	28	ASSESSMENT 2		X		NO		1,6	7
	29					NO		1,6	7
							Subtotal 1	**48,33**	**96**

Total 1 *(Hours of class plus student homework hours between weeks 1-14)*			146

15		Tutorials, handing in, etc							10
16									
17		Assessment							3
18									
							Subtotal 2	**13**	

Total 2 *(Hours of class plus student homework hours between weeks 15-18)*	13

TOTAL *(Total 1 + Total 2. <u>Maximum 180 hours</u>)*	**159**