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

COURSE: Energy in Buildings		
DEGREE: Bachelor in Energy Engineering	YEAR: 4	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	HOMEWORK HOURS (Max. 7h week)
1	1	Introduction, energy consumption, environment	X				1.66	5
1	2	Assignment of case study buildings Climate analysis (tool: ClimateConsultant)		X	Comp. Room		1.66	
2	3	Building heat transfer. Thermal envelope. Building energy codes and standards	X				1.66	5
2	4	Model: geometry and envelope (tool: HULC/eQUEST)		X	Comp. Room		1.66	
3	5	Annual energy demand (tool: HULC/eQUEST)		X	Comp. Room		1.66	5
3	6	Thermal loads, design conditions & ventilation	X			Project hand-in 1	1.66	
4	7	Calculation of heating and cooling loads (tool: CarrierHAP/excel)		X	Comp. Room		1.66	5
4	8	Calculation of heating and cooling loads (tool: CarrierHAP/Excel)		X	Comp. Room		1.66	
5	9	Refrigeration and heat generation	X			Project hand-in 2	1.66	5
5	10	Sizing and selection of heat/cold equipment (tool: CarrierHAP)		X	Comp. Room		1.66	
6	11	HVAC systems	Renewable energy systems	X				1.66	

WEEKLY PLANNING								
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WEEK	**SESSION**	**DESCRIPTION**	**LECTURES**	**SEMINARS**		**DESCRIPTION**	**CLASS HOURS**	**HOMEWORK HOURS** (Max. 7h week)
6	12	Sizing and selection of RES (tools: CTEQ4/RETScreen)		X	Comp. Room		1.66	5
7	13	Annual energy consumption (tool: HULC/eQUEST)		X	Comp. Room	Project hand-in 3	1.66	5
7	14	Visit (date to confirm)			Visit		1.66	
8	15	Lighting systems: introduction	X				1.66	
8	16	Lighting systems: fundamentals and lights	X				1.66	
9	17	Lighting poject I: building design (tool: Dialux)		X	Comp. Room		1.66	
9	18	Lighting poject II: building design II (tool: Dialux)		X	Comp. Room		1.66	
10	19	Lighting poject III: lighting systems (tool: Dialux)		X	Comp. Room	Project hand-in 4	1.66	
10	20	Photovoltaic Systems: installation design	X				1.66	
11	21	PV project I (tool PVSyst)		X	Comp. Room		1.66	
11	22	PV project II (tool PVSyst)		X	Comp. Room		1.66	
12	23	PV project III (tool PVSyst)		X	Comp. Room	Project hand-in 5	1.66	
12	24	Visit (date to confirm)			Visit		1.66	
13	25	Power factor	X				1.66	
13	26	RES building integration					1.66	
14	27	Oral presentations	X			Project final	1.66	5
14	28	Oral presentations	X			Project final	1.66	
	29						1.66	
						Subtotal 1	**48.14**	**40**
						Total 1 (Hours of class plus student homework hours between weeks 1-14)		88.14

15		Tutorials, handing in, etc						
16								
17		Assessment						3
18								

WEEKLY PLANNING								
W E E K	S E S S I O N	DESCRIPTION	TEACHING (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	WEEKLY PROGRAMMING FOR STUDENT		
			L E C T U R E S	S E M I N A R S		DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
						Subtotal 2	3	
						Total 2 (Hours of class plus student homework hours between weeks 15-18)	3	

TOTAL (Total 1 + Total 2. Maximum 156 hours)	91.14