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

COURSE: ENVIRONMENTAL TECHNOLOGY		
DEGREE: INGENIERÍA ELECTRÓNICA, INDUSTRIAL Y AUTOMÁTICA	YEAR: 2º	TERM: 2º

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 (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 3,25h)
1	1	PRESENTATION OF THE COURSE. TOPIC 1. INTRODUCTION TO ENVIRONMENTAL TECHNOLOGY		X	NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
2	2	TOPIC 2. POLLUTION ASSESSMENT. Analysis of atmospheric pollutants and water pollutants	X		NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
3	3	TOPIC 3. GREEN CHEMISTRY AND INDUSTRIAL ECOLOGY. Twelve principles of green chemistry. Industrial ecosystems. Green engineering		X	NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
4	4	TOPIC 4. INTRODUCTION TO ATMOSPHERIC POLLUTION. The atmosphere. Dispersion of pollutants. Air quality and legislation	X		NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
5	5	TOPIC 5. ATMOSPHERIC POLLUTANTS AND POLLUTION EFFECTS. Gaseous pollutants, characteristics and effects. Particles. Industrial hygiene.		X	NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
6	6	TOPIC 6. AIR POLLUTION CONTROL. Control of mobile combustion sources. Combustion reaction. Control of stationary combustion sources. Removal technologies of gases and particulate matter	X		NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25

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7	7	LABORATORY SESSION PRACTICAL 1. Environmental comparison of residential heating systems. PRACTICAL 2. Study of the quality of air in the Autonomous Region of Madrid		X	YES	Students work in group and deliver a report	1,66	3,25
8	8	TEST 1. Topics 1-6	X		NO	Student work for the evaluation of the acquired knowledge	1,66	3,25
9	9	TOPIC 7. WASTEWATER TREATMENT: PRETREATMENT AND PRIMARY TREATMENT. Wastewaters treatment. Pretreatment operations. Equipment. Primary treatment operations. Sedimentation tanks.		X	NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
10	10	PROJECT SESSION I. Waste management I	X		NO	Student work for the presentation of the project	1,66	3,25
11	11	TOPIC 8. WASTEWATER TREATMENT: SECONDARY TREATMENT. Biological process. Equipment. Sludge line. Gas line. Biogas production.		X	NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
12	12	PROJECT SESSION II. Waste management II	X		NO	Student work for the presentation of the project	1,66	3,25
13	13	TOPIC 9. WASTEWATER TREATMENT: TERTIARY TREATMENTS. Nitrogen and phosphorous removal processes. Membrane processes. Oxidation technologies. Absorption and adsorption processes.		X	NO	Student work about the given contents and check of the recommended bibliography	1,66	3,25
14	14	PROJECT SESSION III. Environmental Impact Assessment	X		NO	Student work for the presentation of the project	1,66	3,25
	15	TEST 2. Topics 7-9 and project sessions I, II, and III	X		NO	Student work for the evaluation of the acquired knowledge	1,66	3,25
						Subtotal 1	**25**	**49**
						Total 1 *(Hours of class plus student homework)*	**74**	

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			LECTURES	SEMINARS		DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 3,25h)
15		Tutorials, handing in, etc				Student work about the given contents and check of the recommended bibliography	1,8	-
16 17 18		Assessment					4	4
						Subtotal 2	**6**	**4**
						Total 2 *(Hours of class plus student homework)*	**10**	
TOTAL *(Maximun 83 horas)*							**83**	