SUBJECT: Techniques of Thermal, Mechanical and Thermo-mechanical Characterization		
POSTGRADE: MASTER IN Materials Science and Engineering Teachers: Mónica Campos Gómez, José Luis de la Fuente, Srdjan Milenkovic; Fco. Javier González Benito	ECTS: 3	TERM: 1

Subject schedule (Detailed version)

WEEK	SESION	DESCRIPTION OF THE SESION CONTENT	GROUP		Indicate necessary space (informatics room, laboratory, etc.	WORK OF THE STUDENT DURING THE WEEK		
			1	2		DESCRIPTION	CLASSROOM HOURS	WORKING HOURS Week maximum 7 H
1	1	Introduction to the Thermal. Mechanical and thermo-mechanical Characterization Techniques	x		Class room (presential)	Study of recommended bibliography, read slides and do exercises	1,5	4
1	2	Thermogravimetric Analysis	x		BB Collaborate (Online synchronous)	Study of recommended bibliography, read slides and do exercises	1,5	4
2	3	Practical cases about Thermogravimetric analysis (Laboratory)	x		Laboratory (Presential)	Preparation of results report related to the practical cases	1,5	4
2	4	Differential thermal analysis DTA	x		Class room (presential)	Study of recommended bibliography, read slides and do exercises	1,5	5

3	5	Practical cases about Differential thermal analysis (Laboratory)	x		Laboratory (Presential)	Preparation of results report related to the practical cases	1.5	5
3	6	Differential Scanning Calorimetry (DSC)	x		BB Collaborate (Online synchronous)	Study of recommended bibliography, read slides and do exercises	1,5	5
4	7	Study of thermal transitions and processes by DSC. (Laboratory)	x		Laboratory (Presential)	Study of recommended bibliography, read slides and do exercises	1.5	5
4	8	Dilatometry study of materials	x		Class room (presential)	Study of recommended bibliography, read slides and do exercises	1,5	5
5	9	Practical cases about Dilatometry in materials (Laboratory)	x		Laboratory (Presential)	Preparation of results report related to the practical cases	1,5	5
5	10	Mechanical tests of materials. Study of mechanical properties	x		BB Collaborate (Online synchronous)	Study of recommended bibliography, read slides and do exercises	1,5	5
6	11	Fundaments of yielding tests	x		Class room (presential)	Study of recommended bibliography, read slides and do exercises	1,5	5
6	12	Practical cases about yielding tests (Laboratory)	x		Laboratory (Presential)	Preparation of results report related to the practical cases	1,5	6

7	13	Fundaments of tests about dynamic-thermomechanical analysis	x		BB Collaborate (Online synchronous)	Study of recommended bibliography, read slides and do exercises	1,5	6
7	14	Practical cases about dynamic-thermomechanical analysis (Laboratory)	x		Laboratory (Presential)	Study of recommended bibliography, read slides and do exercises	1,5	5
TOTAL HORAS							21	69

Subject	**PRESENCIAL**				**ONLINE Synchronous**	
	Nº of Presential Groups		Presential Hours		Nº online Groups	Online Hours
	Theory	Laboratory	Theory	Laboratories	Teoría	Teoría
Techniques of Thermal, Mechanical and Thermo-mechanical Characterization 3 ECTS OPTATIVE 1T (Prevision: 12 students)	**1** 2.3.A06 2.3.D02 2.3D05	**6** (2 students each; with social security distance *and PPE`s)* ***Laboratories of Department CIMIQ:*** **1.1E03**	**6h** (50%)	**9h** (x 6 groups)	**1**	**6h** (50%)