Universidad Carlos III de Madrid

SUBJECT: Digital manufacturing and design technology		
MASTER DEGREE: MASTER IN CONNECTED INDUSTRY 4.0	ECTS: 3	QUARTER: 1

TIMETABLE FOR THE SUBJECT

WEEK	SESSION	DESCRIPTION OF EACH SESSION	GROUP (X mark)		Indicate if a different lecture room is needed (computer, audiovisual, etc.)	HOMEWORK PER WEEK		
			1	2		DESCRIPTION	ATTENDING HOURS	HOMEWORK Max. 7H/WEEK
1	1	**Concepts & Fundamentals of design technology for Digital manufacturing**	X		NO	Previous reading of the proposed topics. Introduction to design technology oriented to digital production.	1,5	4
1	2	**Digitization in the complete life cycle of a product (I)**	X		NO	Previous reading of the proposed topics. Phases of life of a product from introduction stage (design) to its decline.	1,5	2
1	3	**Digitization in the complete life cycle of a product (II)**	X		NO	Previous reading of the proposed topics.	1,5	3
1	4	**Digitization in the complete life cycle of a product (III)**	X		NO	Previous reading of the proposed topics. Applications and trends.	1,5	3
2	5	**Modeling and mechanical design oriented to the digitization of production (I)**	X		INF	Previous reading of the proposed topics. Introduction to design and modeling and simulation programs oriented to the connected Industry	1,5	3
2	6	**Modeling and mechanical design oriented to the digitization of production (II)**	X		INF	Previous reading of the proposed topics. Model analysis.	1,5	2

2	7	**Real-time 3D modeling and simulation**	X		INF	Previous reading of the proposed topics. Parametric modeling.	1,5	2
2	8	**design technologies applied to additive production and rapid prototyping**	X		NO	Previous reading of the proposed topics. Design oriented to prototyping	1,5	4
3	9	**Design and customization of new components and mechanical systems (I)**	X		INF	Previous reading of the proposed topics. Geometric optimization and new designs.	1,5	2
3	10	**Design and customization of new components and mechanical systems (II)**	X		INF	Previous reading of the proposed topics. Topological optimization.	1,5	5
3	11	**Product quality control systems**	X		NO	revious reading of the proposed topics. Testing and measuring the quality of a product	1,5	2
3	12	**Industrial Maintenance 4.0 (I)**	X		NO	Previous reading of the proposed topics. introduction to maintenance 4.0	1,5	2
4	13	**Industrial Maintenance 4.0 (II)**	X		NO	Previous reading of the proposed topics. Fail detection systems in the connected industry	1,5	3
4	14	**Industrial Maintenance 4.0 (III)**	X		NO	Previous reading of the proposed topics. Industrial applications	1,5	3
4	15	**Industrial Maintenance 4.0 (II)**	X		NO	Previous reading of the proposed topics. Industrial applications	1,5	5

4	16	**Presentation of the reports**	X		NO	Presentation of the reports done in the course	1,5	7
5	17	**EXAMEN**	X		NO		1,5	7
5	18							
TOTAL HOURS							**25,5**	**59**