Universidad Carlos III de Madrid

SUBJECT: Intelligent Control of Processes and Factories		
MASTER DEGREE: MASTER IN CONNECTED INDUSTRY 4.0	ECTS:3	QUARTER: 2

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	Introduction. Presentation and introduction of the course. Introduction to evolutive optimization methods	X			Read the documents associated with session 2	1,5	3,5
1	2	Fundamentals of evolutionary metods. Methods.	X			Review the concepts of session 2 Read the documents associated with session 3	1,5	3,5
1	3	Fundamentals of fuzzy logic	X			Review the concepts of session 3 Read the documents for session 4 and 5 Read the documents associated with the first lab.	1,5	3,5
1	4	Lab I : Use of Evolutionary Methods	X		LAB 1.1L01/2	Practical use of evolutionary methods in optimization	1,5	3,5
2	5	Fuzzy logic control.	X			Review the concepts of session 5 Review the whole set of documents for the first week.	1,5	3,5
2	6	Fuzzy logic identification	X			Review the concepts of session 6 Read the documents for session 8. Read the documents associated with the fsecond lab.	1,5	3,5

2	7	Lab II: Use of Fuzzy Logic	X		LAB 1.1L01/2	Practical use of fuzzy logic.	1,5	3,5
2	8	Fundamentals of neural networks	X			Review the concepts of session 8. Read the documents for session 9 and 10.	1,5	3,5
3	9	Neural network identification	X			Review all concepts associated with session 9 Read the documents associated with the third lab.	1,5	3,5
3	10	Neural network control	X			Review the concepts of session 10 Read the documents for session 12. Read the documents associated with the first lab.	1,5	3,5
3	11	Lab III : Use of Neural Networks	X		LAB 1.1L01/2	Practical use of neural networks	1,5	3,5
3	12	Fundamentals of Bayesian Networks	X			Review the concepts of session 12. Read the documents for session 13	1,5	3,5
4	13	Bayesian networks in control	X			Review the concepts of session 13. Read the documents for session 15 Read the documents associated with the 4th lab.	1,5	3,5
4	14	Lab IV: Use of Bayesian Networks	X		LAB 1.1L01/2	Practical use of bayesian networks	1,5	3,5
4	15	Bayesian networks in industrial problems	X			Review the concepts for session 15. Review all to prepare the test.	1,5	3,5
4	16	Knowledge test	X			Review all to prepare the test.	1,5	3,5
TOTAL HOURS							22,5	52,5
							75	

(**) The documents associated with the session will be, depending on the session, slides with lecture notes, short articles or selected parts of the recommended books.