Universidad Carlos III de Madrid

SUBJECT: Advanced Numerical Methods for Data Science			
MASTER DEGREE: Master in Statistical Data Science Coordinator: Carlos Ruiz Mora		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	Optimization Modeling I: Introduction	X			Theory	1,5h	2h
1	2	Optimization Modeling I: Pyomo	X		Computers Lab	Lab	1,5h	2h
2	3	Optimization Modeling II: Application Examples	X			Theory	1,5h	2h
2	4	Optimization Modeling II: Automatic Differentiation	X		Computers Lab	Lab	1,5h	2h
3	5	Nonlinear Optimization I: Theory	X			Theory	1,5h	2h
3	6	Nonlinear Optimization I: Application Examples	X		Computers Lab	Lab	1,5h	2h
4	7	Nonlinear Optimization II: Algorithms	X			Theory	1,5h	2h
4	8	Nonlinear Optimization II: Application Examples	X		Computers Lab	Lab	1,5h	2h
5	9	Optimization and Machine Learning I: Theory	X			Theory	1,5h	2h
5	10	Optimization and Machine Learning I: Application Examples	X		Computers Lab	Lab	1,5h	2h
6	11	Optimization and Machine Learning II: Algorithms	X			Theory	1,5h	2h
6	12	Optimization and Machine Learning II: Application Examples	X		Computers Lab	Lab	1,5h	2h
7	13	Optimization under uncertainty: Theory	X			Theory	1,5h	2h
7	14	Optimization under uncertainty: Application Examples	X		Computers Lab	Lab	1,5h	2h
TOTAL HOURS							21	28