Universidad Carlos III de Madrid

SUBJECT: Wireless Networks and 5G		
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	Introduction. Presentation and introduction of the course. Introduction to Wireless networks	X		No	Read the documents associated with session 2	1,5	3,5
1	2	Fundamentals of wireless channels and wireless communications.	X		No	Review the concepts of session 2	1,5	3,5
1	3	The IEEE 802.11 family of standards, network topologies, frame format, addressing	X		No	Review the concepts of session 3 Read the documents for session 4 and 5	1,5	3,5
1	4	IEEE 802.11 Medium access control protocol (I)	X		No	Review the concepts of session 4 Review the whole set of documents for the first week.	1,5	3,5
2	5	IEEE 802.11 Medium access control protocol (II)	X		No	Review the concepts of session 5	1,5	3,5
2	6	IEEE 802.11 advanced topics	X		No	Review the concepts of session 6.	1,5	3,5

2	7	Introduction to mobile cellular networks. The evolution of mobile cellular networks. Standardization.	X		No	Review all concepts associated with 802.11. Read the documents associated with the first lab.	1,5	3,5
2	8	Lab (1/2): Introduction the lab	X		Laboratory 4.1B01/2 (Leganés)		1,5	3,5
2	9	Lab (2/2): Performance analysis of wireless networks	X		Laboratory 4.1B01/2 (Leganés)	Review the documents of session 7. Read the documents for sessions 10 and 11	1,5	3,5
3	10	4G Networks (I) Introduction, terminology, architecture, access.	X		No	Review the concepts of session 10	1,5	3,5
3	11	4G Networks (II) Core network, elements, interconnection.	X		No	Review the concepts of session 11. Read the documents for session 12	1,5	3,5
3	12	5G Networking (I) Introduction, motivation, use cases	X		No	Review advanced topics of 802.11 Read the documents associated with the second lab.	1,5	3,5
4	13	5G Networking (II) Novel concepts and architecture	X		No	Review the concepts for session 14.	1,5	3,5
4	14	5G Networking (III) Advanced concepts	X		No	Review the concepts for session 15.	1,5	3,5
4	15	Knowledge test	X		No		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.