



COURSE: SENSOR NETWORKS AND EMBEDDED SYSTEMS COMMUNICATION		
MASTER: ELECTRONIC SYSTEMS ENGINEERING AND APPLICATIONS	YEAR: 2014-15	TERM: 1st

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		Special room for session (computer classroom, audio-visual classroom...)	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS/ LAB ¹		DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	1. Introduction to Sensor Networks. 1.a. Communication Networks, Sensor Networks, OSI model.	X			Getting of the required material for the subject (Tools, bibliography, etc.)	1,5	4
1	2	1.b. Embedded Systems Networks (Low cost, low power consumption, low data-rate, real time, etc.)	X			Developed themes study	1,5	
2	3	1.c. Dealing Sensor Data	X			Developed themes study	1,5	4
2	4	2. Nodes Hardware 2.a. Sensor-Node interfaces: SPI, I2C, 1451.2, etc.	X			Developed themes study	1,5	
3	5	2.b. Sensors (STH11, Accelerometers, etc.)	X			Developed themes study	1,5	5
3	6	2.c. Node Architecture	X			Developed themes study	1,5	

4	7	2.d. Power Consumption. Energy Harvesting.	X			Developed themes study	1,5	4	
4	8	3. Networks and Communications 3.a. Topologies & Architectures	X			Developed themes study	1,5		
5	9	3.b. Routing & communications		X	Computer Classroom	Simulation CAD learning Conclusions and discussion in class	1,5	7	
5	10	3.c Networking, Broadcast & Dissemination	X			Developed themes study	1,5		
6	11	4. Wired and Wireless Protocols 4.a Wired: 4.a.1. Automotive protocols (CAN, LIN, FlexRay) 4.a.2. General: Ethernet, RS485 4.a.3. Specific: SpaceWire, Firewire	X			Developed themes study	1,5	4,5	
6	12	4.b. Wireless: 4.b.1 Bluetooth 4.b.2. Wifi	X			Developed themes study	1,5		
7	13	4.b.3 Zigbee	X			Developed themes study	1,5		
7	14	Seminar: New Challenges in Sensor Networks		X	Seminars Room	Discussion in classs	3	4	
							Subtotal 1	22,5	32,5
							Total 1 (Hours of class plus student homework hours between weeks 1-7)		55

¹ A maximum of 1-2 lab sessions

1-7 9-15		Tutorials, handing in, etc					10		
16							3	7	
							Subtotal 2	3	17
							Total 2 (Hours of class plus student homework hours at week 8)		20

TOTAL (Total 1 + Total 2)							75
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