Universidad Carlos III de Madrid
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COURSE: OPTICAL COMMUNICATIONS SYSTEMS (3 ECTS)		
MASTER: Master in Photonics Engineering	**YEAR: 2020-2021**	**TERM: 2nd**

WEEKLY PLANNING

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
1	**Introduction of the subject** Overview of the course and Reminder System hierarchy and norms	x		01.02	Brief Introduction to the subject.	1,5	4
2	**Sensitivity in simple IM/DD systems** Total noise, BER, Q, sensitivity, penalties	x		01.02	Previous reading and revision of class materials.	1,5	
3	**Sensitivity in optically amplified IM/DD systems** EDFAs, SOA and Raman amplifier noise	x		08.02	Previous reading and revision of class materials.	1,5	10
4	**Problem calculations** Presentation of problems related to sensitivity	x		08.02	Previous reading and revision of class materials. Problems to be solved at home.	1,5	
5	**Emulated FTTH link** (time of flight, and power budget)		x	15.02	Laboratory session. WDM link assessment. Including test for checking student preparation	1,5	
6	**Emulated FTTH link** (time of flight, and power budget)		x	15.02	Continuation	1,5	20

7	**Optiwave** simulation of coherent system		X	15.03	Laboratory session. Including test for checking student preparation	1,5	
8	**Optiwave** simulation of amplified system		X	15.03	Continuation	1,5	
9	**Coherent systems** Emission and detailed format	x		22.02	Previous reading and revision of class materials.	1,5	
10	**Signal recovery and noise in coherent systems** Coherent detection	X		22.02	Previous reading and revision of class materials.	1,5	
11	**Emulated FTTH link** Noise and system performance		x	01.03	Laboratory session. WDM link assessment. Including test for checking student preparation	1,5	
12	**Emulated FTTH link** Noise and system performance		x	01.03	Continuation	1,5	
13	**WDM systems** DWDM, CWDM flexible grid WDM	X		08.03	Previous reading and revision of class materials.	1,5	
14	**Advanced systems and Optiwave presentation** SDM, MIMO,OFDM, Superchannels	x		08.03	Previous reading and revision of class materials.	1,5	
					Subtotal 1	**21**	**34**
					Total 1 *(Hours of class plus student homework hours between weeks 1-7)*	**55**	

[1] **A maximum of 1-2 lab sessions**

	Tutorials, handing in, etc				Solving any remaining question	10	
15	Assessment				Studying the documentation for the final assessment.	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**