



<b>COURSE: PHOTONIC INTEGRATED CIRCUITS (PICs)</b>		
<b>MASTER: ELECTRONIC SYSTEMS ENGINEERING AND APPLICATIONS</b>	<b>YEAR: 2014-15</b>	<b>TERM: 2nd</b>

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		Special room for session (computer classroom, audio-visual classroom...)	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS/ LAB <sup>1</sup>		DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Introduction (1) Introduction to the course objectives and plan. Basics of the different Platforms for Photonic integration.	X				1,5	4
1	2	Introduction (2) Fields of application for PICs Players in the Photonic Integrated Circuit market	X				1,5	
2	3	Basic Passive Building Blocks (1) Waveguides Y-junction couplers Multimode Interference Couplers	X				1,5	7
2	4	Basic Passive Building Blocks (2) Directional Couplers: Evanescent Couplers Counter-propagating couplers: Bragg Gratings	X				1,5	

3	5	Basic Active Building Blocks (1) Phase Modulators Semiconductor Optical Amplifiers	X				1,5	7	
3	6	Basic Active Building Blocks (2) Laser diode	X				1,5		
4	7	Basic Active Building Blocks (3) Photodiodes	X				1,5	7	
4	8	Basic Photonic Integrated Modules (1) Optical Filters Fiber Couplers, Bragg Couplers	X				1,5		
5	9	Basic Photonic Integrated Modules (2) Modulators, Balanced Photodetectors	X				1,5	4	
5	10	Basic Photonic Integrated Modules (3) DFB and DBR lasers	X				1,5		
6	11	Design Tools (1)		x			1,5	2,5	
6	12	Design Tools (2)		X			1,5		
7	13	Examples of Photonic Integrated Systems (1)	X				1,5	2,5	
7	14	Examples of Photonic Integrated Systems (2)	X				1,5		
<sup>1</sup> A maximum of 1-2 lab sessions							<b>Subtotal 1</b>	<b>21</b>	<b>34</b>
<b>Total 1 (Hours of class plus student homework hours between weeks 1-7)</b>								<b>55</b>	
1-7		Tutorials, handing in, etc						10	
8		Assessment					3	7	
<b>Subtotal 2</b>							<b>3</b>	<b>17</b>	
<b>Total 2 (Hours of class plus student homework hours at week 8)</b>								<b>20</b>	
<b>TOTAL (Total 1 + Total 2)</b>								<b>75</b>	