COURSE: ASSISTIVE PHOTONICS (3 ECTS)		
MASTER: Master in Photonics Engineering	**YEAR: 2017-2018**	**TERM: 1st**

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 Disability: Current Status and Challenges** Definitions of impairment / disability. Geographical distribution of disability in the World / Spain.	x			Introduction to the subject.	1,5	4
2	**Accessible / universal design**. Description of the principles of design for all. Examples of practical application.	x			Previous reading and revision of class materials..	1,5	
3	**Evaluation of support products: standards and best practices.** Classification of disability support products: Classic technology vs current technology	x			Previous reading and revision of class materials.	1,5	8

4	**Products supporting the visually impaired.** Anatomy of the eye. Low vision and color blindness Assistive photonic products for eye diseases	x			Previous reading and revision of class materials.	1,5	
5	**Motor Disability** Introduction and motor disability issues Photonic aids for motor disability: examples	x			Previous reading and revision of class materials.	1,5	
6	**Intellectual Disability** Causes of intellectual disability AAC Systems based on photonic technologies	x			Previous reading and revision of class materials.	1,5	10
7	**Hearing impairment.** Ear anatomy Causes of hearing impairment Technical products based on optoelectronic systems	x			Previous reading and revision of class materials.	1,5	
8	**Use of displays in rehabilitation technologies. Head up displays, 3D, e-readers** AR and VR. Basic concepts AR and VR as tools for rehabilitation in cognitive disability.	x			Previous reading and revision of class materials.	1,5	
9	**Audiovisual Accessibility** Scenarios: TDT, museums, cinemas, theatres, scenic arts,...	x			Previous reading and revision of class materials.	1,5	
10	**Audiovisual Accessibility** Optoelectronic aids for AV accessibility	x			Previous reading and revision of class materials.	1,5	
11	**Lab Session: Design of assistive products for different kind of disabilities (I)** Conceptual design Simulation		x		Revision of theoretical concepts and proposed exercises	1,5	12
12	**Lab Session: Design of assistive products for different kind of disabilities (II)** Implementation Demonstration		x		Previous reading and revision of class materials.	1,5	
13	**Workshop**		x		Presentation and discussion of the student's works.	1,5	
14	**Workshop**		x		Presentation and discussion of the student's works.	1,5	

	[1] **A maximum of 1-2 lab sessions**				**Subtotal 1**	**21**	**34**
					Total 1 *(Hours of class plus student homework hours between weeks 1-7)*	**55**	
	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**	