uc3m | Universidad Carlos III de Madrid

COURSE: Medical Image processing (14158)		
DEGREE: BIOMEDICAL ENGINEERING	**YEAR: 2019/20**	**TERM: 2nd**

WEEKLY PLANNING

WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	Indicate YES/NO If the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS			DATE	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Course presentation. Elements of Visual Perception. Human Visual System.	X				Jan 29	1,6 JP	
1	2	Matlab refreshment. Hw1.		X	X	X	Jan 30 & Jan 31	1,6 EM+MA	7
2	3	Image Sampling and Quantization.	X				Feb 5	1,6 MA	
2	4	Spatial and gray level resolution. Examples		X			Feb 6 & Feb 7	1,6 MA	7
3	5	Geometrical transformations. Hw2	X				Feb 12	1,6 JP	
3	6	Understanding Zooming, Shrinking and Transforming in digital images.		X			Feb 13 & Feb 14	1,6 JP	7
4	7	Point processing.	X				Feb 19	1,6 MA	
4	8	Image enhancement. Point processing II.		X			Feb 20 & Feb 21	1,6 MA	7
5	9	Color images.	X				Feb 26	1,6 JP	
5	10	Color images II. Image file formats.		X	X		Feb 27 & Feb 28	1,6 EM	7
6	11	Image filtering in spatial domain	X				Mar 4	1,6 MA	
6	12	Exercises on Spatial filtering		X	X	X	Mar 5 & Mar 6	1,6 MA	7
7	13	Fourier domain	X				Mar 11	1,6 MA	
7	14	Image filtering in the Fourier domain I		X	X	X	Mar 12 & Mar 13	1,6 MA	7

8	15	Image filtering in the Fourier domain II	X				Mar 18	1,6 MA	
8	16	Exam Exercises		X		X	Mar 19 & Mar 20	1,6 MA+JP	7
9	17	**PARTIAL EXAM**	X				**Mar 25**	1,6 MA+JP	
9	18	Medical Imaging Modalities I		X			Mar 26 & Mar27	1,6 JP	
10	19	Image Segmentation I	X				Apr 1	1,6 JP	7
10	20	Exercises on image segmentation		X	X		Apr 2 & Apr 3	1,6 JP	
11	21	Medical Imaging Modalities II	X				Apr 15	1,6 JP	7
11	22	Exercises on image segmentation II		X			Apr 16	1,6 JP	
12	23	Jornadas empleo Ing. Biomédica	X				Apr 17	1,6 JP	7
12	24	Image compression	X				Apr 22	1,6 JP	
13	25	Exercises on image compression		X			Apr 23 & Apr 24	1,6 JP+EM	7
13	26	Advanced quantification	X				Apr 29	1,6 JP	
13	27	Group practice presentations		X			May 6,7,8	1,6 JP	
14	28	Group practice presentations		X			May 6,7,8	1,6 JP	7
14	29	Tutorial. Exam exercises		X			May 11-13	1,6 JP+MA	
							Subtotal 1	**46,4**	**98**
		Total 1 *(Hours of class plus student homework hours between weeks 1-14)*						144,4	

15		Tutorials, handing in, etc						2	
16		Assessment						3	8
17									
18									
							Subtotal 2	**5**	**8**
		Total 2 *(Hours of class plus student homework hours between weeks 15-18)*						13	

TOTAL A *(Total 1 + Total 2)*	**155,8**

LABORATORIES CLASSES PROGRAMMING (*)						
WEEK	SESSION	DESCRIPTION	LABORATORY	WEEKLY PROGRAMMING FOR STUDENT		
				DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
	1	Matlab seminar			1,6	
	2	Geometrical transformations			1,6	2
	3	Histogram equalization			1,6	
	4	Color image processing seminar			1,6	
	5	Fourier analysis			1,6	
	6	Image segmentation I			1,6	
	7	Build your own filter			1,6	2
	8	Image segmentation II			1,6	
	9	Group practice on image quantification			1,6	4
	10	Group practice on image quantification			1,6	
				Subtotal 3	**15,8**	**18**
				Total 3 *(Hours of class plus student homework hours of ten sessions laboratories)*	**23,8**	

TOTAL B *(Total 3)*	**23,8**

TOTAL *(Total A + Total B. Maximum 180 hours)*	**179.6**

(*) *In EPS are given an additional 16 hours of laboratory practices along ten sessions.*