

COURSE: Medical Image processing (14158)

DEGREE: BIOMEDICAL ENGINEERING

YEAR: 2018/19

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 30	1,6	7
1	2	Matlab refreshment		X	X	X	Jan 31 & Feb 1	1,6	
2	3	Image Sampling and Quantization. Hw1	X				Feb 6	1,6	7
2	4	Spatial and gray level resolution. Examples		X			Feb 7 & Feb 8	1,6	
3	5	Geometrical transformations. Hw2	X				Feb 13	1,6	7
3	6	Understanding Zooming, Shrinking and Transforming in digital images.		X			Feb 14 & Feb 15	1,6	
4	7	Point processing.	X				Feb 20	1,6	7
4	8	Image enhancement. Point processing II.		X			Feb 21 & Feb 22	1,6	
5	9	Color images.	X				Feb 27	1,6	7
5	10	Color images II. Image file formats.		X	X		Feb 28 & Mar 1	1,6	
6	11	Image filtering in spatial domain	X				Mar 6	1,6	7
6	12	Exercises on Spatial filtering		X			Mar 7 & Mar 8	1,6	
7	13	Medical Imaging Modalities I	X				Mar 13	1,6	7
7	14	Exam exercises		X		X	Mar 14 & Mar 15	1,6	

8	15	<b>PARTIAL EXAM</b>	X				<b>Mar 20</b>	1,6	
8	16	Medical Imaging Modalities II		X			Mar 21 & Mar 22	1,6	7
9	17	Fourier domain for image processing	X				Mar 27	1,6	
9	18	Image filtering in the Fourier domain I		X			Mar 28 & Mar29	1,6	
10	19	Image compression	X				Apr 3	1,6	7
10	20	Exercises on image compression		X			Apr 4 & Apr 5	1,6	
11	21	Image Segmentation I	X				Apr 10	1,6	7
11	22	Image filtering in the Fourier domain II		X	X		Apr 11 & Apr 12	1,6	
12	23	Image Segmentation II	X				Apr 24	1,6	7
12	24	Exercises on image segmentation		X	X		Apr 25 & Apr 26	1,6	
13	25	Advanced quantification	X				May 8	1,6	7
13	26	Group practice presentations		X			May 9	1,6	
13	27	Jornadas de Empleo en Ingeniería Biomédica					May 10	1,6	
14	28	Tutorial. Exam exercises		X			May 13-15	1,6	7
14	29	Tutorial. Exam exercises		X			May 13-15	1,6	
<b>Subtotal 1</b>								<b>46,4</b>	<b>98</b>
<b>Total 1 (Hours of class plus student homework hours between weeks 1-14)</b>								<b>144,4</b>	

15		Tutorials, handing in, etc						2	
16		Assessment						3	8
17									
18									
<b>Subtotal 2</b>								<b>5</b>	<b>8</b>
<b>Total 2 (Hours of class plus student homework hours between weeks 15-18)</b>								<b>13</b>	
<b>TOTAL A (Total 1 + Total 2)</b>								<b>155,8</b>	

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	4
	10	Visit to Hospital de Getafe			2	
<b>Subtotal 3</b>					<b>15,8</b>	<b>18</b>
<b>Total 3 (Hours of class plus student homework hours of ten sessions laboratories)</b>					<b>23,8</b>	
<b>TOTAL B (Total 3)</b>					<b>23,8</b>	
<b>TOTAL (Total A + Total B. Maximum 180 hours)</b>					<b>179.6</b>	

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