Universidad Carlos III de Madrid
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COURSE: Introduction to Biomaterials		
DEGREE: Biomedical Engineering	**YEAR: 2020/2021**	**TERM: 2**

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			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Introduction to Biomaterials. Basic concepts	X				Reading of proposed topics. Bibliographic research	1.6	6
1	2	Polymers for biomedical applications	X				Reading of proposed topics. Bibliographic research	1.6	
2	3	Hydrogels for biomedical applications	X				Reading of proposed topics. Bibliographic research	1.6	6
2	4	Presentation and discussion of some practical examples, problems and articles		X				1.6	
3	5	Bioceramics	X				Reading of proposed topics. Bibliographic research	1.6	6
3	6	Presentation and discussion of some practical examples, problems and articles		X				1.6	
4	7	Surface modification of biomaterials	X				Reading of proposed topics.	1.6	6

							Bibliographic research		
4	8	Presentation and discussion of some practical examples, problems and articles		X				1.6	
5	9	Designing biomaterials for 3D printing	X				Reading of proposed topics. Bibliographic research	1.6	6
5	10	Practical demonstration of 3D printing		X				1.6	
6	11	CONTINUOUS EVALUATION: TEST						1.6	6
6	12	Presentation and discussion of some practical examples, problems and articles		X				1.6	
7	13	Biomaterial degradation I	X				Reading of proposed topics. Bibliographic research	1.6	6
7	14	Biomaterial degradation II	X				Reading of proposed topics. Bibliographic research	1.6	
8	15	Extracellular matrix-based biomaterials	X				Reading of proposed topics. Bibliographic research	1.6	6
8	16	Extracellular matrix-based biomaterials: activity		X				1.6	
9	17	Presentation and discussion of some practical examples, problems and articles		X				1.6	6
9	18	Wound healing and the presence of biomaterials	X				Reading of proposed topics. Bibliographic research	1.6	
10	19	Presentation and discussion of some practical examples, problems and articles		X				1.6	6
10	20	Immune response to biomaterials. Tumorigenesis and calcification of biomaterials	X				Reading of proposed topics. Bibliographic research	1.6	
11	21	Biofilms. Approaches to control/prevent biomaterial-related biofilm infections	X				Reading of proposed topics. Bibliographic research	1.6	6
11	22	Presentation and discussion of some practical examples, problems and articles		X				1.6	
12	23	CONTINUOUS EVALUATION: TEST						1.6	6
12	24	Blood-biomaterial interactions	X				Reading of proposed topics. Bibliographic research	1.6	
13	25	Presentation and discussion of some practical examples, problems and articles		X				1.6	6
13	26	Scientific paper presentation by students		X				1.6	

14	27	Scientific paper presentation by students		X				1.6	6
14	28	Scientific paper presentation by students		X				1.6	
15	29	Scientific paper presentation by students		X				1.6	3
							Subtotal 1	**46.4**	**87**
							Total 1 *(Hours of class plus student homework hours between weeks 1-14)*	133.4	

15		Tutorials, handing in, etc						1.5	
16		Assessment						3	6
17									
18									
							Subtotal 2	**4.5**	**6**
							Total 2 *(Hours of class plus student homework hours between weeks 15-18)*	10.5	

TOTAL *(Total 1 + Total 2)*	**143.9**