Universidad Carlos III de Madrid
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COURSE: REGENEARTION AND BIOENGINEERING OF TISSUES AND ORGANS		
DEGREE: Biomedical Engineering	**YEAR: 2019/20**	**TERM: 1**

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)
11/09/2019	1	**Introduction: Overview and Objectives**	X				Formal Class	1,6	6
11/09/2019	2	**"Journal Club": critical discussion of papers (Uygun et al., Nature Medicine 2010)**		X			Formal Class	1,6	
18/09/2019	3	**Concepts of Embryogenesis and Morphogenesis**	X				Formal Class	1,6	6
18/09/2019	4	**Tissue/Organ Engineering Paradigm**	X				Formal Class	1,6	
25/09/2019	5	**Enabling Technologies – Bioreactors**	X				Formal Class	1,6	6
25/09/2019	6	**Enabling Technologies - Use of Recombinant Technologies in TE**	X				Formal Class	1,6	
02/10/2019	7	**Organ Reconstruction (Implantation, Transplantation & Rejection)**	X				Formal Class	1,6	6

02/10/2019	8	**Organ Reconstruction II (Implantation, Transplantation & Rejection)**	X				Formal Class	1,6	
09/10/2019	9	**First Continuous Evaluation Test (40 min)**	X				Test	0,8	6
09/10/2019	10	**Organ Reconstruction III (Bioartificial Organs and Bioengineering) (1,5h)**	X				Formal Class	1,6	
16/10/2019	11	**Organ Reconstruction IV ("Organoids" and Bioprinting) (1,5h)**	X				Formal Class	1,6	6
16/10/2019	12	**Gene Therapy (Jose Carlos Segovia) (1,5h)**	X				Invited lecturer (Jose Carlos Segovia)	1,6	
23/10/2019	14	**Transgenics as Biofactories (Shaida Mogadassi) (1,5h)**	X				Invited lecturer (Shaida Mogadassi)	1,6	6
23/10/2019	15	**Experimental and Bioengineering Research (Introduction) (2h)**	X				Formal Class	2	
30/10/2019	16	**Experimental and Bioengineering Research I (Stem Cell Isolation, Culture and Expansion) (4h)**		X			UC3M Bioengineering Labs	4	6
6/11/2019	17	**Experimental and Bioengineering Research II (Scaffold Generation) (4h)**		X			UC3M Bioengineering Labs	4	6
13/11/2019	18	**Experimental and Bioengineering Research III (Tissue/Organ Bioengineering) (4h)**		X			UC3M Bioengineering Labs	4	6
20/11/2019	19	**Second Continuous Evaluation Test (40 min)**	X				Test	0,8	
20/11/2019	20	**Experimental and Bioengineering Research IV (Tissue Construct Analysis) (2h)**	X				Formal Class	2	6
18/11/2019-29/11/2019	21	**Experimental and Bioengineering Research V (RT-PCR) (10h)**		X			UC3M Bioengineering Labs	10	6
27/11/2019	22	**Advance therapy medicinal product: From the bench to the patient (1h30)**	X				Invited lecturer (Maruja Lamana)	1,6	3
27/11/2019	23	**Government regulations for engineered tissues (1h30)**	X				Invited lecturer (Sol Ruiz)	1,6	3
							Subtotal 1	**24**	**78**
		Total 1 *(Hours of class plus student homework hours between weeks 1-14)*						**102**	

04/12/2019	24	**Paper presentation**						4	7
							Subtotal 2	**4**	**7**
		Total 2 *(Hours of class plus student homework hours between weeks 15-18)*						**11**	
		TOTAL A *(Total 1 + Total 2)*						**113**	

LABORATORIES CLASSES PROGRAMMING (*)						
WEEK	SESSION	DESCRIPTION	LABORATORY	WEEKLY PROGRAMMING FOR STUDENT		
				DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
30/10/2018	1	Stem Cell Isolation, Culture and Expansion	UC3M Bioengineering Labs	Teams of 10 students	4	6
06/11/2018	2	Scaffold Generation	UC3M Bioengineering Labs	Teams of 10 students	4	6
13/11/2018	3	Tissue/Organ Bioengineering	UC3M Bioengineering Labs	Teams of 10 students	4	6
20/11/2018	4	Tissue Construct Analysis	UC3M Bioengineering Labs	Teams of 10 students	2	6
18/11/2018-29/11/2018	5	Biomolecular characterization of tissues I (RT-PCR)	UC3M Bioengineering Labs	Teams of 10 students	10	6
04/12/2018	6	**Paper presentation**	UC3M Bioengineering Labs	Teams of 10 students	2	6
			1	**Subtotal 3**	**26**	**36**
				Total 3 *(Hours of class plus student homework hours of ten sessions laboratories)*	**62**	
				TOTAL B *(Total 3)*	**62**	

TOTAL *(Total A + Total B. Maximum 180 hours)*	**175**

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