



58h total
de clases
(teóricas
+praticas
)

COURSE: CELL CULTURE FOR TISSUE ENGINEERING AND BIOTECHNOLOGY		
DEGREE: Biomedical Engineering	YEAR: 2016	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)
06/09/2017	1	Introduction: Overview and Objectives	X				Formal Class	1,6	6
06/09/2017	2	Critical discussion of papers (Uygun et al., Nature Medicine 2010)		X			Formal Class	1,6	
13/09/2017	3	Tissue/Organ Engineering Paradigm	X				Formal Class	1,6	6
13/09/2017	4	Concepts of Embryogenesis and Morphogenesis	X				Formal Class	1,6	
20/09/2017	5	Enabling Technologies – Bioreactors	X				Formal Class	1,6	6

20/09/2017	6	Technologies - Use of Recombinant Technologies in TE	X				Formal Class	1,6	
27/09/2017	7	Organ Reconstruction (Implantation, Transplantation & Rejection)	X				Formal Class	1,6	6
27/09/2017	8	Organ Reconstruction II (Implantation, Transplantation & Rejection)	X				Formal Class	1,6	
04/10/2017	9	First Continuous Evaluation Test (40 min)	X				Test	0,8	6
04/10/2017	10	Organ Reconstruction I (Bioartificial Organs and Bioengineering) (1,5h)	X				Formal Class	1,6	
18/10/2017	11	Organ Reconstruction II (Bioartificial Organs and Bioengineering) (1,5h)	X				Formal Class	1,6	6
18/10/2017	12	Transgenics as Biofactories (Shaïda Mogadassi) (1,5h)	X				Invited lecturer (Shaïda Mogadassi)	1,6	
25/10/2017	14	Gene Therapy (Jose Carlos Segovia) (1,5h)	X				Invited lecturer (Jose Carlos Segovia)	1,6	6
25/10/2017	15	Experimental and Bioengineering Research (Introduction) (2h)	X				Formal Class	2	
08/11/2017	16	Experimental and Bioengineering research I (Stem Cell Harvesting and Isolation) (2h)		X			UC3M Bioengineering Labs	2	
08/11/2017	17	Experimental and Bioengineering research III (Stem Cell Culture and Expansion) (2h)		X			UC3M Bioengineering Labs	2	6
15/11/2017	18	Experimental and Bioengineering research II (Scaffold Generation) (4h)		X			UC3M Bioengineering Labs	4	
22/11/2017	19	Experimental and Bioengineering research IV (Tissue/Organ Bioengineering) (4h)		X			UC3M Bioengineering Labs	4	6
29/11/2017	20	Second Continuous Evaluation Test (40 min)	X				Test	0,8	
29/11/2017	21	Experimental and Bioengineering research V (Tissue Construct Analysis) (2h)	X				Formal Class	2	6
27/11/2017-13/12/2017	22	Experimental and Bioengineering research VI (RT-PCR) (10h)		X			UC3M Bioengineering Labs	10	6
13/12/2017	23	Advance therapy medicinal product: From the bench to the patient (1h30)	X				Invited lecturer (Maruja Lamana)	1,6	3
13/12/2017	24	Government regulations for engineered tissues (1h30)	X				Invited lecturer (Sol Ruiz)	1,6	3
Subtotal 1								24	45
Total 1 (Hours of class plus student homework hours between weeks 1-14)								69	

20/12/2017		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)								80	

LABORATORIES CLASSES PROGRAMMING (*)							
WEEK	SESSION	DESCRIPTION	LABORATORY	WEEKLY PROGRAMMING FOR STUDENT			
				DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)	
8/11/2017	1	Stem Cell Harvesting, Isolation and Cell Culture Expansion	UC3M Bioengineering Labs	Teams of 10 students	4	1	
15/11/2017	3	Scaffold Generation	UC3M Bioengineering Labs	Teams of 10 students	4	1	
22/11/2017	4	Tissue/Organ Bioengineering	UC3M Bioengineering Labs	Teams of 10 students	4	1	
29/11/2017	5	Tissue Construct Analysis	UC3M Bioengineering Labs	Teams of 10 students	2	1	
27/11/2016-15/12/2016	6	Biomolecular characterization of tissues I (RT-PCR)	UC3M Bioengineering Labs	Teams of 10 students	10	1	
20/12/2016	7	Paper presentation	UC3M Bioengineering Labs	Teams of 10 students	2	1	
1					Subtotal 3	26	7
Total 3 (Hours of class plus student homework hours of ten sessions laboratories)						33	
TOTAL B (Total 3)						33	

TOTAL (Total A + Total B. Maximum 180 hours)						113	
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(*) In EPS are given an additional 16 hours of laboratory practices along ten sessions.