DEPARTMENT OF MOLECULAR BIOTECHNOLOGY
COURSE SYLLABUS

Course Details				
Code	**Academic Year**			**Semester**
MBT471	4			7
Title	**T**	**A**	**L**	**ECTS**
Cell-Material Interactions	3	0	2	6

Language	German					
Level	**Undergraduate**	**X**	**Graduate**		**Postgraduate**	
Department / Program	Molecular Biotechnology					
Forms of Teaching and Learning	Face-to-Face					
Course Type	**Compulsory**		**Elective**	**X**		
Objectives	Gaining knowledge about biocompatible materials and the possible interactions between materials and tissues.					
Content	Signal transduction in the skin and bones, biological matrices, biopolymers, material-tissue interactions, surface chemistry, inorganic materials and surfaces, organic polymers, biomaterials					
Prerequisites	No					
Coordinator	Undefined					
Lecturer(s)	Undefined					
Assistant(s)						
Work Placement	No					

Recommended or Required Reading	
Books / Lecture Notes	Tissue Engineering, van Blitterswijk, de Boer, Academic Press
Other Sources	

Additional Course Material	
Documents	
Assignments	
Exams	

Course Composition		
Mathematics und Basic Sciences		%
Engineering		%
Engineering Design		%
Social Sciences		%
Educational Sciences		%
Natural Sciences	100	%

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Health Sciences		%
Expert Knowledge		%

Assessment		
Activity	**Count**	**Percentage (%)**
Midterm Exam	1	40
Quiz	0	0
Assignments	0	0
Attendance	0	0
Recitations	1	20
Projects	0	0
Final Exam	1	40
	Total	**100**

ECTS Points and Work Load			
Activity	**Count**	**Duration**	**Work Load (Hours)**
Lectures	14	3	42
Self-Study	14	3	42
Assignments	0	0	0
Presentation / Seminar Preparation	0	0	0
Midterm Exam	1	10	10
Recitations	0	0	0
Laboratory	14	2	28
Projects	0	0	0
Final Exam	1	10	10
		Total Work Load	**132**
		ECTS Points (Total Work Load / Hour)	**6**

Learning Outcomes	
1	Gaining knowledge about material-tissue interactions and biocompatible materials

Weekly Content	
1	Signal transduction in the skin and bones
2	Biological matrices, extra cellular matrix
3	Biopolymers
4	Tissue-material interactions
5	Surface chemistry and topology
6	Mechanics of materials
7	Inorganic materials and surfaces

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8	Organic polymers
9	Matrix design and production
10	Biomaterials

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7
1	5	5	5	5	-	5	-

Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High
https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=5707	
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