DEPARTMENT OF MOLECULAR BIOTECHNOLOGY
COURSE SYLLABUS

Course Details				
Code	**Academic Year**			**Semester**
MBT211	2			3
Title	**T**	**A**	**L**	**ECTS**
Biochemistry I	2	1	2	6

Language	German					
Level	**Undergraduate**	**X**	**Graduate**		**Postgraduate**	
Department / Program	Molecular Biotechnology					
Forms of Teaching and Learning	Face-to-Face					
Course Type	**Compulsory**	**X**	**Elective**			
Objectives	Students gain knowledge about molecular mechanisms of living systems.					
Content	1. Basic elements of life, water as solvent, regulation of pH value in biological systems 2. Carbonbinding, functional groups in biomolecules 3. Aminoacids, peptids ans protein structure 4. Structure and function of nucleotides 5. Structure of sugars 6. Cell metabolism 7. Cell membrane structure and proteins 8. Cell membrane transport and ion pumps 9. Cellular compartments and their functions 10. Cytoskeleton, motorproteins and cell motion 11. Signal transduction 12. Coordination of organ functions through hormones					
Prerequisites	-					
Coordinator	Assoc. Prof. Dr. Orkide Coşkuner Weber					
Lecturer(s)	Assoc. Prof. Dr. Orkide Coşkuner Weber					
Assistant(s)	Research Assistant Melis Işık Toksoy, Research Assistant Şeyma İş					
Work Placement	-					

Recommended or Required Reading	
Books / Lecture Notes	Molecular Cell Biology, 4th editionHarvey Lodish, Arnold Berk, S Lawrence Zipursky, Paul Matsudaira, David Baltimore, and James Darnell.
Other Sources	

Additional Course Material	
Documents	
Assignments	
Exams	

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Course Composition		
Mathematics and Basic Sciences		%
Engineering		%
Engineering Design		%
Social Sciences		%
Educational Sciences		%
Natural Sciences	100	%
Health Sciences		%
Expert Knowledge	100	%

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

ECTS Points and Work Load			
Activity	**Count**	**Duration**	**Work Load (Hours)**
Lectures	13	3	39
Self-Study	13	5	65
Assignments	0	0	0
Presentation / Seminar Preparation	0	0	0
Midterm Exam	1	10	10
Recitations	0	0	0
Laboratory	10	3	30
Projects	1	10	10
Final Exam	1	12	12
		Total Work Load	**166**
		ECTS Points (Total Work Load / Hour)	**6**

Learning Outcomes	
1	Understanding of basic principles of biochemistry and the functions and structures of biochemical molecules.

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2	Understanding the relation between structure and function in biomolecules.
3	Understanding of applications of biochemical processes in biotechnology.
Weekly Content	
1	Basic elements of life, water as solvent, regulation of pH value in biological systems
2	Carbonbinding, functional groups in biomolecules
3	Aminoacids, peptids ans protein structure
4	Structure and function of nucleotides
5	Structure of sugars
6	Cell metabolism
7	Cell membrane structure and proteins
8	Cell membrane transport and ion pumps
9	Cellular compartments and their functions
10	Cytoskeleton, motorproteins and cell motion
11	Signal transduction
12	Coordination of organ functions through hormones

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

	P1	P2	P3	P4	P5	P6	P7
1	5	5	5	4	0	4	0
2	5	5	5	4	0	4	0
3	5	5	5	4	0	4	0

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

Compiled by:	Research Assistant Şeyma İş
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