

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY  
MODULE DESCRIPTION

Course Details					
<b>Code</b>				<b>Academic Year</b>	<b>Semester</b>
MBT212				2	4
<b>Title</b>	<b>T</b>	<b>A</b>	<b>L</b>	<b>ECTS</b>	
Biochemistry II	3	0	2	6	
<b>Language</b>	German				
<b>Level</b>	<b>Undergraduate</b>	<b>X</b>	<b>Graduate</b>		<b>Postgraduate</b>
<b>Department / Program</b>	Molecular Biotechnology				
<b>Forms of Teaching and Learning</b>	Face-to-face				
<b>Course Type</b>	<b>Compulsory</b>	<b>X</b>	<b>Elective</b>		
<b>Objectives</b>	Understanding of the fundamentals and details of the molecular structures of metabolism.				
<b>Content</b>	Metabolism of carbohydrates, lipids, proteins and nucleotides.				
<b>Prerequisites</b>	-				
<b>Coordinator</b>	Assoc. Prof. Dr. Aysu Yarman				
<b>Lecturer(s)</b>	-				
<b>Assistant(s)</b>	Res. Asst. Melis Işık Toksoy, Res. Asst. Şeyma İş				
<b>Work Placement</b>	-				
Recommended or Required Reading					
<b>Books / Lecture Notes</b>	Stryer Biochemie, Lehninger Biochemie Lecture Notes				
<b>Other Sources</b>					
Additional Course Material					
<b>Documents</b>					
<b>Assignments</b>					
<b>Exams</b>					
Course Composition					
<b>Mathematics und Basic Sciences</b>					%
<b>Engineering</b>					%
<b>Engineering Design</b>					%
<b>Social Sciences</b>					%
<b>Educational Sciences</b>					%
<b>Natural Sciences</b>	100				%

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Health Sciences			%
Expert Knowledge	100		%
<b>Assessment</b>			
<b>Activity</b>	<b>Count</b>		<b>Percentage (%)</b>
Midterm Exam	1		30
Quiz	-		-
Assignments	2		20
Attendance	-		-
Recitations	-		-
Projects	-		-
Final Exam	1		50
		<b>Total</b>	<b>100</b>
<b>ECTS Points and Work Load</b>			
<b>Activity</b>	<b>Count</b>	<b>Duration</b>	<b>Work Load (Hours)</b>
Lectures	13	3	39
Self-Study	13	5	65
Assignments	2	10	20
Presentation / Seminar Preparation	-	-	-
Midterm Exam	1	2	2
Recitations	-	-	-
Laboratory	13	2	26
Projects	-	-	-
Final Exam	1	2	2
		<b>Total Work Load</b>	<b>154</b>
		<b>ECTS Points (Total Work Load / Hour)</b>	<b>6</b>
<b>Learning Outcomes</b>			
1	Understanding of the processes in bioenergetics.		
2	Understanding the metabolism of proteins, lipids, carbohydrates, and nucleic acids.		
<b>Weekly Content</b>			
1	Basic Pattern of Metabolism		
2	Carbohydrates and Glycolysis		
3	Glycolysis		
4	Glyconeogenesis		
5	Krebs Cycle		
6	Oxidative Phosphorylation, Electron Transport Chain		

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<b>7</b>	Light Reactions of Photosynthesis, Calvin Cycle and Pentose Phosphate Pathway
<b>8</b>	Glycogen Metabolism
<b>9</b>	Lipids and Fatty Acid Metabolism
<b>10</b>	Protein Turnover and Amino Acid Catabolism
<b>11</b>	Biosynthesis of Amino Acids
<b>12</b>	Biosynthesis of Nucleotides
<b>13</b>	Biosynthesis of Membrane Lipids and Steroids

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

	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>	<b>P7</b>
<b>1</b>	3	5	3	-	-	3	5
<b>2</b>	3	5	3	-	-	3	5

**Contribution Level** 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High

**OBS LINK:** <https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=5707>

**Compiled by:** Dr. Betül Uluca

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