



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Biochemistry							
Course Code		TBY207		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	100 ( <i>Hours</i> )	Theory	4	Practice	0	Laboratory	0
Objectives of the Course		Understand the cell's energy needs and it's chemical structure. Became familiar with the chemical composition and bheivour of the biological macromolecules. Understand the biochemical basis of cellular signal transduction.							
Course Content		Biochemistry, The goal of the course, to understand anabolism and catabolism of carbohydrates, proteins and fat. properties of some important vitamins.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion					
Name of Lecturer(s)		Lec. Çiğdem YAMANER							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

### Recommended or Required Reading

1	1. Gözükara, E. 2010: Biyokimya. Nobel tıp kitapevi, İSTANBUL. (Ders Kitabı)
2	2. Biochemistry (International Edition) by Jeremy M. Berg, John L. Tymoczko, and Lubert Stryer

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction of biochemistry
2	Theoretical	Structural, physical and chemical characteristics of water. Structure and function of amino acids
3	Theoretical	Structure and function of proteins. Amino acid metabolism
4	Theoretical	Structure of primer, secondary and quaternary proteins. Enzymes
5	Theoretical	Catabolism of proteins
6	Theoretical	Glycolysis, kreps cycle and glycogen metabolism
7	Theoretical	Classification and biological importance of fats, fatty acids and neutral fats
8	Theoretical	midterm exam
9	Theoretical	Metabolism of fatty
10	Theoretical	The Biosynthesis of Membrane Lipids and Steroids
11	Theoretical	Vitamins and coenzymes
12	Theoretical	Nucleotides and nucleic acid biosynthesis
13	Theoretical	Nucleic acid metabolism
14	Theoretical	Biochemistry of Signal Transduction
15	Theoretical	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Midterm Examination	1	7	1	8
Final Examination	1	7	1	8
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	To comprehend the biochemical importance of water for living beings
2	To comprehend the structure and function of amino acids, peptides and proteins



3	To learn the properties of saccharides
4	Identify structure-function relationships in cells and organisms
5	To understand the lipids metabolism

#### Programme Outcomes (Agricultural Biotechnology)

1	To be able to develop skills in identifying, modeling and solving problems in agricultural biotechnology
2	To be able to synthesize life and engineering sciences for the effective resource planning of agricultural biotechnology applications
3	To be able to interpret about living organisms structure, metabolic and physiological processes in order to propose biotechnological solutions to the agricultural problems
4	To be able to analyze genomic, metabolomic and proteomic information via bioinformatic tools.
5	To have the ability to analyze collected data and interpret the results.
6	To have the ability of individual working ability and to make independent decisions, to work in inter-disciplinary and interdisciplinary teamwork, to communicate by expressing their ideas orally and in writing, clearly and concisely
7	To have the awareness of professional liabilities and ethics
8	To be able to follow current national and international problems

#### Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	4	3	4	3	3
P2	4	3	3	4	4
P3	3	4	3	4	5
P4	3	5	3	5	5
P5	4	4	4	5	5
P6	4	4	4	4	5
P7	5	5	3	5	5
P8	5	5	5	5	5

