BIOCHEMISTRY I

1	Course Title:	BIOCHEMISTRY I	
2	Course Code:	BYL3005	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	5	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. EGEMEN DERE	
15	Course Lecturers:	Prof. Dr. Ferda ARI	
16	Contact information of the Course Coordinator:	Doç. Dr. Egemen DERE Bursa Uludağ Üniversitesi Fen Ed. Fak Biyoloji Bl. Moleküler Biyoloji Anabilim Dalı Tel: 0 224 41792 edere@uludag.edu.tr BUrsa Uludag University Faculty of Arts and Science Department of Biology/ branch of science of Molecular Biology Gorukle Campus, Nilufer/BURSA 16059 e-mail: edere@uludag.edu.tr Phone: 0 (224) 294 1792	
17	Website:		
18	Objective of the Course:	The aim of course is to describe the cell, the tiniest part of the life in a chemical aspect and explain the mechanisms those are effective in the onset of existence of the living organisms and continuity of the life and the end of the life. The goals are to understand basic principal of living organism from atom to molecules, to teach the biochemical importance of water to life, understanding the structure and functions of amino acids, learning structure of peptide and hormones, to teach the structure and functions of proteins, to teach bioenergetics and metabolism concepts, learning the structure and functions of enzymes, recognizing coenzymes, learning clinical, diagnoses and treatment importance of enzymes, understanding of protein metabolism	
19	Contribution of the Course to Professional Development:	Biochemistry I and Biochemistry II courses include basic Biochemistry subjects. Students who successfully complete the courses become more knowledgeable about their health. Understand the basic features of nutrition as they learn energy metabolism. These courses provide the basis for students wishing to work in the clinical laboratory.	
20	Learning Outcomes:		
		1	To learn and understand the basic characteristics, from atoms to molecules, of living beings
		2	To comprehend the biochemical importance of water for living beings
		3	To comprehend the structure and function of amino acids, peptides and proteins

	4	To learn the function of peptide hormones
	5	To learn the concept of metabolism and bioenergetics
	6	To comprehend the structure and function of enzymes and coenzymes
	7	To comprehend the significancy of enzymes in medical, diagnosis and cure
	8	To understand the protein metabolism
	9	
	10	

21	Course Content:

Course Content:

Week	Theoretical	Practice
1	Organic and inorganic (electrolytes) molecular organization of the cell, atmosphere and life	
2	Structural, physical and chemical characteristics of water. Structure and function of amino acids	
3	Amino acid stereochemistry, plane of peptide	
4	Some important peptides and peptide hormones	
5	Amino acid reactions, protein synthesis	
6	Structure of primer, secondary and	
8	Classification of proteins and structure and function of some important proteins.	
9	Structure and function of enzymes, comparison of enzymes and normal catalysts	
10	Enzyme activation, factors that affect enzyme activity, enzyme inhibition, factors that affect	
11	Allosteric enzyms and kinetics	
12	Vitamins and coenzymes, medicinal	
13	Protein metabolism (deamination-	
14	Urea biosynthesis	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preparation	5	9.00	45.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	3.00	3.00
Others	9	5.00	45.00
Final Exams	1	3.00	3.00
Total Work Load			124.00
Total work load/ 30 hr			4.13
ECTS Credit of the Course			4.00

	Materials:	Biochemistry (Press of Savaş) Biochemistry (Press of Nobel) Biochemistry (Peter Carlson) Biochemistry (Prof. Dr. Fahrünnisa Pamuk) Principles of Biochemistry (Lehninger)

23	Assesment

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00

Contribution of Term (Year) Learning Activities to Success Grade	40.00
Contribution of Final Exam to Success Grade	60.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	Exams are conducted as tests

24 ECTS / WORK LOAD TABLE

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	0	0	4	4	4	2	0	1	0	0	2	0	0	0	0
ÖK2	4	0	0	1	3	2	0	0	1	0	0	2	0	0	0	0
ÖK3	4	0	0	3	0	3	0	0	1	0	0	2	0	0	0	0
ÖK4	4	0	0	3	4	3	0	0	1	0	0	2	0	0	0	0
ÖK5	4	0	0	2	0	2	0	0	1	0	0	2	0	0	0	0
ÖK6	4	0	2	3	0	2	0	0	1	0	0	2	0	0	0	0
ÖK7	3	0	3	4	2	2	0	0	1	0	0	2	0	0	0	0
ÖK8	3	0	2	3	0	2	0	0	1	0	0	2	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**