PROTEIN STRUCTURE AND FUNCTION

1	Course Title:	PROTEIN STRUCTURE AND FUNCTION	
2	Course Code:	TBK6001	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	9.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	-NONE	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. ESMA S. GÜR	
15	Course Lecturers:	-	
16	Contact information of the Course Coordinator:	esma@uludag.edu.tr (224) 2953911 U.Ü. Tıp Fakültesi, Tıbbi Biyokimya AD, Görükle- BURSA	
17	Website:		
18	Objective of the Course:	Proteins are important molecules as structural and functional elements in living organisms. It is crucial to understand protein structure, function and the realtion between them, in order to understand the basic structure and operation of the body. The aim of this course is to teach the structural and functional features of proteins in human body in an advanced level.	
19	Contribution of the Course to Professional Development:	To understand the protein structure and metabolism in advanced level.	
20	Learning Outcomes:		
		1	To explain protein structure
		2	To list functions of proteins
		3	To explain the mechanism of protein denaturation
		4	To explain the structure of amino acids as building blocks of proteins
		5	To explain the endogeneous amino acid synthesis pathways
		6	To explain the degradation of amino acids
		7	To explain the disorders in amnio acid synthesis and degradation in a causal link
		8	To list the serum proteins in order of their electrophoretic mobility
		9	To relate the variations in concentration of plasma proteins with the clinical course
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Properties of amino acids (I)	Detection of proteins by boiling

2	Properties of amino acid (II)	Urine protein analysis
3	Amino acids in protein structure	Esbach method
4	Protein structure (I)	Brom Cresol Green method
5	Protein structure (II)	Biuret reaction
6	Protein structure (III)	Protein denaturation
7	Protein denaturation	Immunometric methods in protein analysis
8	Amino acid synthesis (I)	RID
9	Amino acid synthesis (II)	Urinary melanin
10	Degradation of amino acids and special products derived from amino acids (I)	Protein electrophoresis
11	Degradation of amino acids and special products derived from amino acids (II)	Urea detection
12	Degradation of amino acids and special products derived from amino acids (III)	Urinary 5-HIAA
13	Plasma proteins (I)	Electrophoresis evaluation
14	Plasma proteins (II)	Electrophoresis evaluation

22	Textbooks, References and/or Other Materials:	1. Harper's Biochemistry.Murray, Grammer, Mayes, Rodwell. Appleton &Lange 2. Tietz textbook of Clinical Chemistry. Ashwood. Saunders. 3. Color Atlas of Biochemistry. Koolman, Röhm. Thieme.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	100.00
Total	1	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00
Contribution of Final Exam to Success Grade		100.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Measurement and evaluation are performed according to the Rules & Regulations of Bursa Uludağ University on Undergraduate Education.

24	**ECTS / WORK LOAD TABLE**

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	10.00	140.00
Homeworks	5	10.00	50.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	20.00	20.00
Total Work Load			266.00
Total work load/ 30 hr			8.87
ECTS Credit of the Course			9.00

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	0	0	0	5	0	3	0	0	0	0	0	0	0
ÖK2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	5	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
ÖK4	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK6	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	5	5	0	0	0	0	2	3	0	0	0	0	0	0	0	0
ÖK8	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK9	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

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