

PROTEIN STRUCTURE AND FUNCTION

1	Course Title:	PROTEIN STRUCTURE AND FUNCTION
2	Course Code:	TBK6001
3	Type of Course:	Compulsory
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:	-
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 relation 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:	
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 amino 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
Quiz		0
Home work-project		0
Final Exam		1
Total		1
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		
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			