

VITAMIN BIOCHEMISTRY AND COENZYMES

1	Course Title:	VITAMIN BIOCHEMISTRY AND COENZYMES	
2	Course Code:	BIO6417	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
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	
17	Website:		
18	Objective of the Course:	The aim of the course is to comprehend structures of vitamins and coenzymes. To explain the role of coenzymes in metabolism	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Students can compare foods which is vitamin in
		2	Students can evaluate the structure of coenzymes with vitamins
		3	Students can identify the types of coenzymes
		4	Students can explain electron transport mechanisms of coenzymes
		5	Students can grasp the metabolic importance of coenzymes and vitamins
		6	students can grasp the enzymes work together with coenzymes
		7	Students can grasp the importance of nucleotide triphosphates
		8	Students can understand the diseases occurring deficiency of vitamins and coenzymes
		9	
		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Introduction to vitamins and classification. Properties of water and fat soluble vitamins		

2	Vitamin equivalent (CoA, alpha lipoat, PABA, cholin, carnitine, inositol)			
3	Thiamine - B1 vit, coenzyme TPP and their reaction mechanism and biochemical reactions involving			
4	Riboflavine - B2 vit, ccoenzyme FMN, and their reaction mechanism and biochemical reactions involving			
5	Niacin - B3 vit coenzyme NAD, NADP, and their reaction mechanism and biochemical reactions involving			
6	Pentatonic acid - B5 vit. co A, and their reaction mechanism and biochemical reactions involving			
7	Exam and answer of examination questions, general discussion			
8	Pyridoxine - B6 vit, Pyridoxal 5-P, and their reaction mechanism and biochemical reactions involving			
9	Biotine Vit H, B7, Biositin Coenzyme R, Folic acid B9, THFA, and their reaction mechanism and biochemical reactions involving			
10	Cobalamine - B12 vit, coenzyme B12, Lipoic acid, Lipollizin, and their reaction mechanism and biochemical reactions involving			
11	Metabolic important of nucleotide triphosphate			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	vitamins	14	3.00	42.00
14	The metabolic importance of E and K			
Practicals/Labs		0	0.00	0.00
Self study and preperation		14	5.00	70.00
22	Textbooks, References and/or Other			
Homeworks		2	13.00	26.00
Projects		1	12.00	12.00
Field Studies		0	0.00	0.00
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	
Midterm Exams			3.00	3.00
Others		6	4.00	24.00
Final Exams		0	3.00	3.00
Quiz				
Total Work Load				180.00
Total work load/ 30 hr		1	60.00	6.00
Final Exam				
ECTS Credit of the Course				6.00
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				
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	2	3	2	2	3	3	2	2	2	2	2	0	0	0	0	0
ÖK2	4	4	3	2	3	3	3	3	3	3	3	0	0	0	0	0
ÖK3	4	3	4	4	3	4	3	2	3	3	3	0	0	0	0	0
ÖK4	4	4	3	2	3	3	3	3	3	3	3	0	0	0	0	0
ÖK5	4	3	4	4	3	4	3	2	3	3	3	0	0	0	0	0
ÖK6	4	3	3	4	3	3	3	2	3	3	3	0	0	0	0	0
ÖK7	4	4	3	2	3	3	3	3	3	3	3	0	0	0	0	0
ÖK8	4	3	4	4	3	4	3	2	3	3	3	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			