

CELLULAR BIOCHEMISTRY

1	Course Title:	CELLULAR BIOCHEMISTRY
2	Course Code:	BIO6411
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 enzyme and regulations. To explain the importance of enzymes in metabolism.
19	Contribution of the Course to Professional Development:	Tissues are made up of similar cells Although biochemical reactions are similar, they differ according to cell type. Understanding the functioning of metabolism in relation to cells will cause students to interpret their experiments better.
20	Learning Outcomes:	
	1	Understanding the properties of tissue-specific cell structure
	2	Understanding the abilities that the properties of the cell give to the tissue
	3	Understanding metabolic pathways
	4	Understanding the difference between cell-specific metabolic pathways
	5	Understanding the environmental properties of reactions occurring in metabolic pathways
	6	Relation of biochemical pathways that fail to fulfill their task with diseases
	7	Learning the enzymes used in diagnosis and treatment in clinical biochemistry
	8	Understanding aging, damage, death and canceration of cells that cannot do their job
	9	
	10	
21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Macromolecular structure of the cell (Membrane proteins)	
2	The macromolecular structure of the cell (Membrane lipids, carbohydrates)	
3	Physiological buffer systems, Energy requirement of the cell	
4	Cell junction and tissue differentiation, tissue concept	
5	Organs and Systems	
6	Receptors (Cell surface receptors, G protein coupled receptors, Enzyme coupled receptors)	
7	Sensory receptors and perception	
8	Relationship of receptors with signaling pathways	
9	Blood biochemistry	
10	Midterm exam, Discussion of exam questions, Question and Answer	
11	Muscle biochemistry	
12	Bone biochemistry	
13	Neural biochemistry, Cell cycle	
14	Aging, Cell damage occurrence, Cell death biochemistry	

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		14	5.00	70.00
Homeworks		2	13.00	26.00
Projects	R	1	12.00	12.00
Field Studies		0	0.00	0.00
Midterm exams	0	0.00	3.00	3.00
Others		6	4.00	24.00
Final Exams	1	60.00	3.00	3.00
Total Work Load				180.00
Contribution of (Year) Learning Activities to Total Work Load		40.00		6.00
ECTS Credit of the Course				6.00
Contribution of Final Exam to Success Grade		60.00		
Total		100.00		
Measurement and Evaluation Techniques Used in the Course		Homework, oral and classical exam		

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	2	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			