	OXIDATIVE S	YSTE	M AND ANTIOXIDANTS					
1	Course Title:	OXIDAT	IVE SYSTEM AND ANTIOXIDANTS					
2	Course Code:	TBK 600	05					
3	Type of Course:	Optional						
4	Level of Course:	Third Cy	cle					
5	Year of Study:	1						
6	Semester:	1						
7	ECTS Credits Allocated:	5.00						
8	Theoretical (hour/week):	1.00						
9	Practice (hour/week):	2.00						
10	Laboratory (hour/week):	0						
11	Prerequisites:	No						
12	Language:	Turkish						
13	Mode of Delivery:	Face to	face					
14	Course Coordinator:	Prof. Dr.	ZEHRA SERDAR					
15	Course Lecturers:	-						
16	Contact information of the Course Coordinator:	zserdar@uludag.edu.tr 2953914 Uludağ Üniversitesi Tıp Fakültesi, Temel Tıp Bilimleri Binası, Tıbbi Biyokimya Anabilim Dalı, 16059						
17	Website:							
18	Objective of the Course:	 a) To teach the structures, physical and chemical characteristics, metabolites, endogen and exogen sources of the free radicals, and cellular damages such as lipid peroxidation, protein and carbohydrate oxidation and DNA damage and, their roles at the development of the diseases. b) To teach the structures and functions of the intracellular antioxidants, membrane antioxidants and extracellular antioxidants and, their roles at the development of the diseases. 						
19	Contribution of the Course to Professional Development:							
20	Learning Outcomes:							
		1	To explain the basic concepts related to free radicals					
		2	To explain the basic concepts related to antioxidants					
		3	To explain the roles of free radicals at the development of the several diseases					
		4	To explain the roles of antioxidants at the development of the several diseases					
		5	To acquire with the basic information that can be helpful in the evaluation and interpretation of some clinical cases.					
		6						
		7						
		8						
		9						
		10						
21	Course Content:							

development		Course Content:											
Measurement of MDA at spectrophotometer	Week	Theoretical		Pra	Practice								
Reactivite and half-life Measurement of conjuge dien at spectrophotometer Introduction of HPLC Sexogen sources Measurement of MDA at HPLC Role of free radicals in cellular damage development Measurement of protein carbonyls at spectrophotometer Measurement of carotenoids at spectrophotometer Measurement of vitamin E at spectrophotometer Intracellular antioxidants Measurement of vitamin E at HPLC Membrane antioxidants Measurement of soD at spectrophotometer Measurement of SoD at spectrophotometer Measurement of GPX at spectrophotometer Number Duration (hour) Total Wor Load (hour) Total Wor Load (hour) Activites Number Duration (hour) Total Wor Load (hour) Measurement of SoD at spectrophotometer Number Duration (hour) Total Wor Load (hour) Total Wor Load (hour) Measurement of SoD at spectrophotometer Number Duration (hour) Total Wor Load (hour) Total Wor Load (hour) Total Wor Load (hour) Measurement of SoD at spectrophotometer Number Duration (hour) Total Wor Load (hour) Total Wor Load (hour) Total Work Load (hour) Activites Number Duration (hour) Total Wor Load (hour) Total Work Load (hour) Activites Number Duration (hour) Total Work Load (hour) Total Work Load (hour) Activites Number Duration (hour) Total Work Load (hour) Total Work Load (hour) Activites Number Duration (hour) Total Work Load (hour) Total Work Load (hour) Activites Number Duration (hour) Total Work Load (hour) Total Work Load (hour) Activites (hour) Activites (hour) Measurement of vitamin E at HPLC Measurement of vitamin E at HPLC Neasurement	1	Description of the free radicals		Intr	· · · · · · · · · · · · · · · · · · ·								
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development	5	Exogen sources		Mea	Measurement of MDA at HPLC								
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Measurement of vitamin E at HPLC	7	Measurement methods of the free rad	dicals	Mea	Measurement of carotenoids at spectrophotometer								
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12 Non-classifiable antioxidants	10	Membrane antioxidants		Mea									
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23 Assesment	22	Assasment											
TERM LEARNING ACTIVITIES NUMBE WEIGHT R				WEIGHT									
Midterm Exam 0 0.00	Midterr	m Exam	0										
Quiz 0 0.00	Quiz		0	0.0	0.00								
Home work-project 0 0.00	Home	work-project	0	0.00									
Final Exam 1 100.00	Final E	xam	1	100.00									
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Contribution of Term (Year) Learning Activities to Success Grade 0.00			es to	0.00									
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Measurement and Evaluation Techniques Used in the Course								ne									
24	ECTS	S/	WOI	RK L	OAD	TAB	LE										
25	25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																
	PC	Q1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16
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ÖK2	2		1	0	3	2	0	0	0	0	0	0	0	0	0	0	0
ÖK3	2		1	0	3	2	0	0	0	0	0	0	0	0	0	0	0
ÖK4	2		1	0	3	2	0	0	0	0	0	0	0	0	0	0	0
ÖK5	2		1	0	3	2	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																	
Contrib 1 very low 2 low ution Level:					3	Medi	um	4 High			5 Very High						