

FOOD CHEMISTRY-2

1	Course Title:	FOOD CHEMISTRY-2
2	Course Code:	GMD2204
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	2
6	Semester:	4
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. Ö.UTKU ÇOPUR
15	Course Lecturers:	Doç. Dr. Canan Ece TAMER
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Ziraat Fakültesi Gıda Mühendisliği Bölümü 16059 Görükle/Bursa Tel: 0224 2941491 Fax: 0224 2941402 e-posta: ucopur@uludag.edu.tr
17	Website:	
18	Objective of the Course:	The aim of this course is to give information about food components, to teach chemical and biochemical changes that take place during processing and storage and to explain some reactions which are fundamental subjects of food chemistry. Another aim of this course is to target to get educated students with given information about food chemistry, which is a main area of food engineering.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	The students will be able to learn the chemical, physical and functional properties of food components.
	2	The students will be able to learn structure and properties of enzymes and their use in food industry.
	3	The students will be able to learn the effects of food processing methods on the food components.
	4	The students will be able to learn the properties of the food toxicants.
	5	The students will be able to learn principles of chemical and biochemical changes that take place during processing and storage.
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21	Course Content:	
	Course Content:	

Week	Theoretical	Practice		
1	Food Colorants (Chlorophyll, Carotenoids, Betalains, Anthocyanins), Chemistry and General Properties of Taste and Odor Compounds			
2	Electronic Nose and Tongue Systems			
3	Enzymes: General Structures, Factors Affecting Enzyme Activity (Temperature, pH, Enzyme Concentrations). Enzyme Inhibitors			
4	Enzymatic Browning Reactions and Control of Enzymatic Browning			
5	Phenolic Compounds in Foods. Phenolic Acids. Flavonoids (Anthocyanidins, Flavans-Flavonols)			
6	Flavanons, Cathecins, Leucoanthocyanidins, Proanthocyanidins			
7	Phytochemicals and Their Health Effects			
8	Overall Evaluation of the Subjects			
9	Toxicants in Foods. Mycotoxins (Aflatoxins, Ochratoxins, Trichotecenes, Zearalenon)			
10	Toxicants in Foods. Protease Inhibitors, Phytohaemagglutinins, Lectins, Lathyrogens, Linatin, Avidine, Favizm, Goitrogens, Cyanogens, Saponins, Solanine, Gossypol, Antivitamin Factors			
11	Toxicants in Foods. Nitrates, Folic Acid			
Activites		Number	Duration (hour)	Total Work Load (hour)
12	Theoretical Important Biochemical Reactions in Foods	14	2.00	28.00
Practicals/Labs		0	0.00	0.00
14	Self study and preparation Krebs Circle	14	2.00	28.00
Homeworks		0	0.00	0.00
22	Projects Textbooks, References and/or Other Materials	Tamer, C.E. 2009. Gıda Kimyası II (unpublished lecture notes)	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		DeMan, J.M. 1990. Principles of Food Chemistry, 2nd Ed. Van Nostrand Reinhold, NY 520 p	30.00	30.00
Others		0	0.00	0.00
Final Exams		Sliprski Z.E. 2002. Chemical and functional properties of food components. 2nd ed. Boca Raton : CRC Press 367	30.00	30.00
Total Work Load				146.00
Total work load/ 30 hr		Belitz H.D., W. Grosch, P. Schieberle. 2004. Food		3.87
ECTS Credit of the Course				4.00
		Sarıdamlı, İ. 2007. Gıda Kimyası. Hacettepe Univ. Yayın. 587 s.		
		Tucker, G.S. 2008. Food biodeterioration and preservation. Blackwell Pub. 264 p.		
		Gilbert, J., H.Z. Senyuva. 2008. Bioactive compounds in foods Oxford : Blackwell Publishing, 409 p.		
		Bilişli, A. 2009. Gıda Kimyası. Sidas. Çanakkale, 355 s.		
		Demirci, M. 2010. Gıda Kimyası, Kelebek Matbaacılık Tic. San. Ltd. Şti.İstanbul. 292 s.		
23	Assesment			
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	

Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
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	5	2	2	2	3	2	2	3	5	3	4	0	0	0	0	0
ÖK2	5	2	2	3	2	2	2	2	5	3	4	0	0	0	0	0
ÖK3	5	2	2	2	3	2	2	3	5	3	4	0	0	0	0	0
ÖK4	5	2	2	3	2	2	2	2	5	3	4	0	0	0	0	0
ÖK5	5	2	2	2	3	2	2	3	5	3	4	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							