FRUIT AND VEGETABLE PRODUCTS-I

1	Course Title:	FRUIT AND VEGETABLE PRODUCTS-I	
2	Course Code:	GIDZ205	
3	Type of Course:	Compulsory	
4	Level of Course:	Short Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. NIHAL TÜRKMEN EROL	
15	Course Lecturers:	Öğr.Gör. Dr. Nihal TÜRKMEN EROL	
16	Contact information of the Course Coordinator:	nihalt@uludag.edu.tr 0224 294 23 61 Uludağ Üniversitesi, T.B.M.Y.O Gıda Teknolojisi Programı, Görükle Kampüsü, Nilüfer, BURSA	
17	Website:		
18	Objective of the Course:	•To provide an understanding the chemistry of compounds, in particular pigments, phytochemicals and enzymes in the composition of fresh fruits and vegetables •To teach which microorganisms in fresh fruits and vegetables is important •To show how fruits and vegetables are processed using new technologies compared with conventional methods •To teach which steps are applied during the processing of fruits and vegetables and their effects on fruits and vegetables •To teach the changes that occur in qualities of fruits and vegetables during their processing •To enable students to understand the importance of processing of fruits and vegetables using new technologies within the framework of healthy nutrition	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To understand how important the chemistry and microbiology of fruits and vegetables are
		2	To be able to get information about technologies related to the processing of fruits and vegetables
		3	To be able to determine appropriate parameters in order to perform the processing steps related to the processing methods of fruits and vegetables and perform the process
		4	To be able to perform the production that can eliminates the drawbacks occuring during and after the processing of fruits and vegetables using theoretical and experimental methods
		5	To be able to gain the ability recording information about production of fruits and vegetables

	6	To be able to realize the importance of new technologies being aware of the relationship between fruits and vegetables health
	7	To be able to gain problem-solving skills within the scope of fruits and vegetables processing technology
	8	To be able to gain lifelong learning skills to follow the developments in related to fruits and vegetables processing technology
	9	
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21	Course Content:

	Course Content:	
Week	Theoretical	Practice
1	Carbohydrates, nitrogenous substances	Changes in the anthocyanin present in fruits and vegetables
2	Lipids, vitamins, minerals	Changes in anthocyanin present in fruits and vegetables
3	Acids, enzymes, phenolic substances	Spectrophotometric determination of chlorophyll
4	Phytochemicals, pigments	Spectrophotometric determination of chlorophyll
5	Plant-based toxins, additives	Spectrophotometric determination of carotenoids
6	Enzymatic deterioration, non-enzymatic deterioration	Spectrophotometric determination of carotenoids
7	Microbiology of fresh fruits and vegetables	Test (catalase) for blanching adequacy
8	Repeating Courses Midterm Exam	
9	Introduction to minimally processed fruits and vegetables, raw materials, peeling, cutting and slicing	Test (catalase) for blanching adequacy
10	Cleaning, washing (the use of disinfectants), drying and packaging	Determination of phenolic compounds
11	Microbiological safety of minimally processed fruits and vegetables	Determination of phenolic compounds
12	Radiation sources and doses used in the irradiation of fruits and vegetables	Determination of antioxidant activity
13	The effect of irradiation on microorganisms growing in fruits and vegetables and composition of products	Determination of antioxidant activity
14	The safety of irradiated fruits and vegetables and their analysis methods	Determination of the relationship between phenolic compounds and antioxidant activity

22	Textbooks, References and/or Other Materials:	¦ Dr.N.Türkmen Erol Meyve ve Sebze İşleme Teknolojisi I course notes ¦ Cemeroğlu, B.2004. Meyve ve Sebze İşleme Teknolojisi 1. ISBN 975-98578-1-2. Başkent Klişe Matbaacılık.Ankara ¦ Cemeroğlu, B.2004. Meyve ve Sebze İşleme Teknolojisi 2. ISBN 975-98578-2-0. Başkent Klişe Matbaacılık.Ankara ¦ Jongen, W. 2002. Fruit and vegetable processing. Woodhead Publishing Ltd and CRC Pres, LLC. ISBN 0-8493-1541-7
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

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	1.00	14.00
Homeworks	7	2.00	14.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	10.00	10.00
Others	0	0.00	0.00
Final Exams	1	16.00	16.00
Total Work Load			130.00
Total work load/ 30 hr			4.00
ECTS Credit of the Course			3.00

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	**1 very low**		**2 low**				**3 Medium**			**4 High**			**5 Very High**			