

UNIT OPERATIONS IN FOOD ENGINEERING-2

1	Course Title:	UNIT OPERATIONS IN FOOD ENGINEERING-2	
2	Course Code:	GMD3236	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	6	
7	ECTS Credits Allocated:	5.00	
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:	Yrd. Doç. Dr. Bige İNCEDAYI	
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 knowledge about food processing principles which is generally common but fundamentally different, drying methods and separation processes which is applied in the food industry and to teach the principles of instruments and equipments used in food industry.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	The students will be able to learn general principles of unit operations in food industry.
		2	The students will be able to have knowledge about the implementations of unit operations in food engineering.
		3	The students will be able to have a skill and knowledge for directing of food production process in different areas of food industry.
		4	The students will be able to learn drying technology.
		5	The students will be able to learn different separation methods.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	

1	Drying of foods			
2	Problem Solving About Drying of Foods			
3	Condensation of Liquid Foods			
4	Absorption and Desorption of Gases			
5	Extraction and Washing			
6	Problem Solving About Evaporation and Separation			
7	Overall Evaluation of the Subjects			
8	Distillation and Cyrstallisation			
9	Filtration and Sedimentation			
10	Centrifugal Separation			
11	Pressing			
12	Classification and Milling			
13	Emulsification			
14	Homogenization, Mixing			
22	Textbooks, References and/or Other Materials:	Kılıç, O. 1994. Gıda İşleme Mühendisliği – 2. U.Ü. Ziraat Fak. Ders Notları No: 14. Bursa 156 s.		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		44	100	4400
Practicals/Labs		0	0.00	0.00
Self study and preperation		100	100	10000
Homeworks		0	0.00	0.00
Projects		1	100	100
Field Studies		0	0.00	0.00
Midterm exams		1	30.00	30.00
Others		0	0.00	0.00
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	
Final Exams		1	35.00	35.00
Total Work Load				179.00
Total work load/ 30 hr		0	0.00	4.97
Quiz				
ECTS Credit of the Course				5.00
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	3	3	4	5	2	1	2	2	3	3	0	0	0	0	0
ÖK2	5	4	3	4	5	4	3	3	2	4	3	0	0	0	0	0
ÖK3	5	3	2	4	5	2	1	2	2	3	2	0	0	0	0	0
ÖK4	4	3	2	4	3	2	1	2	2	3	2	0	0	0	0	0
ÖK5	4	3	2	4	3	2	1	2	2	3	2	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				