BASIC PRINCIPLES AND INDUSTRIAL APPLICATIONS OF FOOD PROCESSING ENGINEERING

1	Course Title:	BASIC PRINCIPLES AND INDUSTRIAL APPLICATIONS OF FOOD PROCESSING ENGINEERING	
2	Course Code:	GMB5311	
3	Type of Course:	Optional	
4	Level of Course:	Second 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:	-	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. Ö.UTKU ÇOPUR	
15	Course Lecturers:	-	
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 the course is to teach basic principles and the systems used in unit operations in food engineering	
19	Contribution of the Course to Professional Development:	To train qualified students who are equipped with basic process knowledge, manage the production process in the field they work, know the working principles and features of the machines they use.	
20	Learning Outcomes:		
		1	The students will be able to learn the use of electrical heating processes in food engineering
		2	The students will be able to learn the main principles heat transfer operations of food processing
		3	The students will be able to learn the use of irradiation, UV application
		4	The students will be able to learn the use of ultrasound in food engineering
		5	The students will be able to know the machineries used in food industry
		6	The students will be able to know the unit operations applications in food industry
		7	
		8	
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		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice

1	Heat transfer for food engineering
2	Electrical heating processes
3	Irradiation, UV application, Infrared heating
4	Use of ultrasound in food engineering
5	High Hydrostatic Pressure application
6	Vacum impregnation applicatin in food processing
7	Extraction
8	Distillation
9	Filtration, ultrafiltration, reverse osmosis
10	Pressing and press types used in food processimg
11	Crystallization
12	Basic principles of mechanisms of equipments used in food industry
13	Student assignment presentation
14	Student assignment presentation

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	2.00	28.00
Homeworks	1	40.00	40.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	1	30.00	30.00
Final Exams	1	40.00	40.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

23	Assesment

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	1	50.00
Final Exam	1	50.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade	50.00	
Contribution of Final Exam to Success Grade	50.00	

Total									100.00						
Measurement and Evaluation Techniques Used in the Course									For evaluation, a final exam is held together with homework and relative evaluation is applied.						

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	4	5	4	4	4	4	3	4	5	0	0	0	0	0	0
ÖK2	5	5	4	4	4	4	4	3	4	5	0	0	0	0	0	0
ÖK3	5	5	4	4	4	4	4	3	4	5	0	0	0	0	0	0
ÖK4	5	5	4	4	4	4	4	3	4	5	0	0	0	0	0	0
ÖK5	5	5	4	4	4	4	4	3	4	5	0	0	0	0	0	0
ÖK6	5	5	4	4	4	4	4	3	4	5	0	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**