

RHEOLOGY AND TEXTURE OF DAIRY PRODUCTS

1	Course Title:	RHEOLOGY AND TEXTURE OF DAIRY PRODUCTS	
2	Course Code:	GMB5051	
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:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. TÜLAY ÖZCAN	
15	Course Lecturers:	Prof. Dr. Lütfiye YILMAZ ERSAN	
16	Contact information of the Course Coordinator:	Prof. Dr. Tülay ÖZCAN Uludağ Üniversitesi Ziraat Fakültesi Gıda Mühendisliği Bölümü 16059 Görükle/Bursa Tel: 0 224 2941498	
17	Website:		
18	Objective of the Course:	The aim of the course is giving detailed information about rheology and textural properties of dairy products.	
19	Contribution of the Course to Professional Development:	The course provides students with knowledge about rheology and texture in dairy products.	
20	Learning Outcomes:		
		1	To have an information about rheology, texture and fluid behavior of dairy products.
		2	To have an idea about effects of factors on rheological and textural properties of dairy products.
		3	To have an information about instrumental measurements with rheometer, texture analyzer and microscopy.
		4	To be able to explain how to get the paper about their field of study.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Definition of texture and rheology		
2	Rheological classification of fluid foods		
3	Determination of rheological techniques		

4	Measurement of rheological techniques and Rheometer	
5	Determination of textural techniques and Texture Profile Analyzers (TPA)	
6	Microstructure of dairy products and microscopy	
7	Gel properties of dairy products	
8	Effect of milk processing on dairy food rheology and texture	
9	Effect of additives on dairy food rheology and texture	
10	Innovative techniques to improve dairy food quality	
11	Rheology of dairy products (Yoghurt, Cheese, Butter)	
12	Student presentations	
13	Student presentations	
14	Student presentations	
22	Textbooks, References and/or Other Materials:	Blanshard, J.M.V., Lillford, P. (1987) Food Structure and Behaviour. Academic Press, London, Eng. Bourne, M.C. (2002) Food texture and viscosity - concept and measurement. New York: Academic Press Combustion. Mc Graw-Hill. 2nd Ed. Gunasekaren, S., Ak, M.M. (2003) Cheese Rheology and Texture (CRC Press ed.). London: CRC Press.
Activites		Number
		Duration (hour)
		Total Work Load (hour)
Theoretical	4	3.00
Practicals/Labs	0	0.00
Self study and preperation	1	20.00
Homeworks	1	20.00
Projects	0	0.00
Field Studies	0	0.00
Midterm exams	0	0.00
Others	0	0.00
Final Exams	1	20.00
Total Work Load		174.00
Total work load/30 hr		5.80
ECTS Credit of the Course		6.00
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Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam	1	80.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		20.00
Contribution of Final Exam to Success Grade		80.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Homework is given and a final exam is made.

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	5	5	5	3	3	3	4	4	3	0	0	0	0	0	0
ÖK2	5	5	5	5	3	3	3	4	4	3	0	0	0	0	0	0
ÖK3	5	5	5	5	3	3	3	4	4	3	0	0	0	0	0	0
ÖK4	5	5	5	5	3	3	3	4	4	3	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			