AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Utilization of Dairy Wastes								
Course Code	ST409		Couse Level	First Cycle (Bachelor's Degree)					
ECTS Credit	2	Workload	46 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	-To give necessary and basic information to students in dairy by products and the principles of evaloution of these products.								
Course Content	-Necessary information about the nutritional quality of dairy by products and the evaluation techniques of these by products and refining residues								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading	
1	1. International Dairy Federation. 1997. Whey. Proceedings of the second International Whey Confernce. Chicago, USA, 27-29 Ocataber 1997 Sienskiewicz, T., Rieldel, C. L. 1990. Whey and Whey “Whey and Lactose Processing” 1992. Ed. by Zadow, J. G.

Week	Weekly Detailed Course Contents	
1	Theoretical	What is the dairy by products? A basic knowledge on the principles on dairy by products.
2	Theoretical	The importance of dairy by products point of view envorinment
3	Theoretical	Whey composition and characteristics
4	Theoretical	Production of lactic acid
5	Theoretical	A basic knowledge of production of alcoholic and non alcoholic beverages
6	Theoretical	Whey powder production
7	Theoretical	The evaluation whey protein components
8	Intermediate Exam	Mid-term Exam
9	Theoretical	Using of electrodialize techniques
10	Theoretical	Butter by products
11	Theoretical	Dairy by products in fluid milk technology and other products
12	Theoretical	Different membrane techniques in evaluation of dairy by products
13	Theoretical	The basic principles of refining techniques and plants
14	Theoretical	Environmental legislation and preparing report techniques
15	Theoretical	Environmental legislation and preparing report techniques
16	Final Exam	Term Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Individual Work	14	0	1	14
Midterm Examination	1	0	2	2
Final Examination	1	0	2	2
			Total Workload (Hours)	46
			[Total Workload (Hours) / 25*] = **ECTS**	2
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Leartning of general knowledge about dairy byproducts.
2	Learning of dairy- byproducts importance point of view enviromental polluation.
3	Knowing of cheese and butter byproducts and evaluation techniques.
4	Learning of whey evaluation techniques.
5	An ability of whey powder production techniques and whey protein production techniques.
6	Knowing of the use of filtration techniques.
7	Knowing of waste management systems and enviromental polluation legislation.

Programme Outcomes *(Dairy Technology)*	
1	Having sufficient infrastructure in basic sciences and engineering subjects and ability to use the theoretical and applied info instantly in this field.
2	Determining the modern techniques, tools and information technologies required for applications related with his field and ability to use them efficiently
3	Ability for planning, projecting, and designing, following up, analyzing and finding target-driven solutions related with his field
4	Ability to have professional ethic and awareness.
5	Ability to work, decide, express opinions orally and in written individually
6	Ability to participate team studies, taking responsibility, making leadership.
7	Ability to conceive Ataturk’s principles and reforms, to communicate in Turkish and foreign language.
8	Ability to comprehend the necessity to learn for a life time, to monitor developments in science and technology and continuously renew himself.
9	Having sufficient level of information about production and quality control of milk and dairy products and also product development, increasing product quality and food security fields.
10	Ability to detect, define, solve problems related with his field and to select and apply suitable methods and modeling techniques for this purpose.
11	To be conscious about workplace applications, worker health, work security and environment subjects, to have knowledge about legal results of the engineering applications related with his subject.

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5	L6	L7
P1			4	4	4	4	4
P4	4						
P9	3		4	4	4	4	4
P11	3	3					