AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Quality Control in Dairy Industry I								
Course Code	ST308		Couse Level		First Cycle (Bachelor's Degree)				
ECTS Credit	5	Workload	123 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	Teaching the control methods to determinate the microbiologic quality of milk and milk products, microbiologic quality control of plant, personnel and packages, analysis belongs to starter cultures								
Course Content	Knowledge about basic microbiological analyses, cultural and microscopic enumeration methods, controlling pathogens and indicator bacteria, probiotic and lactic cultures, personnel and equipment control methods								
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. Harley, J.P., Prescott, L.M. 2002. Laboratory Exercises in Microbiology,
2	2. The McGraw-Hill Companies Gıda Mikrobiyolojisi ve Uygulamaları. 2000. Ankara Üniversitesi Gıda Mühendisliği

Week	Weekly Detailed Course Contents	
1	Practice	General principals of microbiological analyses, sampling and preparation of sample, diluting and media preparation, guiding rules of enumeration of microorganisms cultural enumeration methods
2	Practice	Total mesophilic aerobic bacteria count by pour plate method and enumeration of spore forming bacteria
3	Practice	Enumeration of yeast-mould and Staphylococcus aureus in yoghurt and cheese
4	Practice	Enumaration of coliforms and E. coli with most probable method (MPN)
5	Practice	Lipolytic and proteolytic bacteria counts in cheese
6	Practice	Control of pathogens in dairy products, recent and fast control methods
7	Practice	Properties and enumeration of yoghurt bacteria, enumeration of probiotic bacteria in probiotic dairy products
8	Intermediate Exam	Midterm Exam
9	Practice	Starter culture kinds, preparation and usage
10	Practice	Quality control of starter cultures. Faj control in whey by activity test
11	Practice	Determination of mastitis. Somatic cell count methods
12	Practice	Direct microscopic enumeration method. Dye reduction test
13	Practice	Microbiological control of surfaces and personnel. Swap method
14	Practice	Control of packages by rinse method. Air control microbial population in air and calculation
15	Practice	Microbiological control of water. Calculation in CIP system. Acidic and alkaline cleaning solutions
16	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2.5	2	63
Laboratory	14	1	2	42
Individual Work	14	0	1	14
Midterm Examination	1	0	2	2

Final Examination	1	0	2	2
			Total Workload (Hours)	123
			[Total Workload (Hours) / 25*] = **ECTS**	5
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	1. able to use the quality control analyses for starter cultures and solve the resultant problems
2	2. Students should be able to; employ the methods for controlling the microbiological quality of dairy products and evaluate the results
3	3. able to remark about the microbiological properties of dairy products and classify according to microbiological quality
4	4. able to apply the hygiene control methods for equipment, water, package and personnel
5	5. able to carry out the CIP system calculations

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
P1	5	5	5	5	5
P3			4	4	5
P9	5	5	5	5	5