AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Dairy Chemistry and Biochemistry								
Course Code	ST311		Couse Level	First Cycle (Bachelor's Degree)					
ECTS Credit	4	Workload	100 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Students who succeed in this course, have information about chemistry and biochemistry of milk therefore they should be able to evaluate this information in the production technology and quality control system. In this way they should be able to lead production system								
Course Content	The definition of milk and milk components, components in terms of the importance of nutrition, their chemical structures, reactions, mechanisms and significance will be discussed in terms of nutritional physiology								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study								
Name of Lecturer(s)									

Prerequisites & Co-requisities	
Prerequisite	ST102

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

Recommended or Required Reading	
1	1. Oysun, G. 1987. Süt Kimyası ve Biyokimyası O.M.Ü Yayınları No:18 Samsun Walstra, P., Geurts. T.J., Nomen. A.,Jellemo, A., von Boekel, M., 1999.
2	2. Dairy Technology. Principles of Milk Proparties and Processes Marcel Dekker, Inc. Newyork. Basel. 727 s.Atamer, M. 1983.
3	3. Tereyağ Teknolojisi. A.Ü.Z.F. Yay. No:1313. Ankara Tekinşen, C. 1996. Süt Ürünleri Teknolojisi. Selçuk Ünv.

Week	Weekly Detailed Course Contents	
1	Theoretical	The definition of milk, development and gain
2	Theoretical	Composition of milk and influencing factors of milk composition
3	Theoretical	Milk lipids, structure, technological and physiological significance of fractions
4	Theoretical	Physical and chemical contaminants, oxidation and hidrolizasyon events
5	Theoretical	Structure of milk proteins and their fractions
6	Theoretical	The importance of technological and physiological aspects of reaction
7	Theoretical	The mechanism of casein clotting
8	Intermediate Exam	Midterm exam
9	Theoretical	Structure of lactose, fermentation, reaction, technological and physiological aspects of importance
10	Theoretical	Enzymes of milk
11	Theoretical	Vitamin of milk
12	Theoretical	Milk minerals and trace elements
13	Theoretical	Defination of organic acids, protective systems, natural cells
14	Theoretical	Contaminants
15	Theoretical	Physical properties and technological importance
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Assignment	2	4	2	12
Individual Work	14	0	1	14
Midterm Examination	1	0	2	2

Final Examination	1	0	2	2
			Total Workload (Hours)	100
			[Total Workload (Hours) / 25*] = **ECTS**	4
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	1. Student should be able to: have knowledge about influencing factors of milk formation and quality
2	2. list macro and micro components of milk
3	3. explain biosynthesis of milk components
4	4. explain the meaning of in terms of nutritional physiology of dairy
5	5. express chemical and biochemical changes in milk composition which consider milk substances
6	6. have information about the importance of the technological aspects of change mechanisms
7	7. have information about the importance exchange mechanism in terms of nutritional physiology

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	5	5	5	5	5	5	5
P9	5	5	5	5	5	5	5