



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Process Engineering in Dairy Industry							
Course Code		ST303		Couse Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	100 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Learning the main principles applied during the processing of milk samples, process control and routing information and skills obtaining.							
Course Content		In the basic process in the manufacture of dairy products and engineering concepts to calculate the production proseslerininin events, tools and equipment used in the production process and the process of integration of information relevant studies							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study, Problem Solving					
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. Oysun, G. Gönç, S., 1996, Süt İşleme .mühendisliği E.Ü.Zir.Fak. yayınları No:522 Bornova İzmir 1996.
---	---

Week	Weekly Detailed Course Contents	
1	Theoretical	Definition and principle of separation
2	Theoretical	Separation process in dairy technology and separators
3	Theoretical	Concepts of emulgation and homogenization
4	Theoretical	Factors influencing homogenization and homogenizer
5	Theoretical	Basic concepts of reaction kinetics
6	Theoretical	Applications of the concept of reaction kinetics in dairy technology
7	Theoretical	Basic concepts of heat transfer in heat treatmen
8	Intermediate Exam	Midterm exam
9	Theoretical	Pasteurization and sterilization techniques in heating and heat transfer
10	Theoretical	Heat exchangers and operating principles
11	Theoretical	Heat transfer in evaporation and evaporator
12	Theoretical	Defination of evaporation system and lyophilization
13	Theoretical	Aim of drying and principles
14	Theoretical	Drying systems
15	Theoretical	Transportation and preservation, heat transfer and mixing of concepts
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Assignment	1	10	2	12
Individual Work	14	0	2	28
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. Students should be able to: list the basic processes principles of milk samples
2	2. comprehension calculation methods for the production of basic processes
3	3. design the production process from data
4	4. have information about working principles of tools and equipment used in the production process
5	Learning of transportation and preservation, heat transfer and mixing of concepts

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 Atatürk'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		4	5
P3			4		4
P5					4
P10				4	

