AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Properties of Lactic Acid Bacteria and Their Industrial Usages								
Course Code	GMP614		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	The aim of the corse is to give information about classification of lactic acid bacteria, their physiology and usages in food industry and effects on health and disease.								
Course Content	Classification of lactic acid bacteria, usages in food industry,stabilities in fermented foods, antimicrobial compounds produced by lactic acid bacteria and their acting mechanism of pathogenic and spoilage bacteria, effects on health and disease, lactic acid bacteria as culure and probiotics.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	70

Recommended or Required Reading	
1	Kılıç, S. 2008. Süt Endüstrisinde Laktik asit Bakterileri, Ege Üniv. Yayın No: 542, İzmir.
2	Salminen, S., von Wright, A. 1993. Lactic acid bacteria. Marcel Dekker, Inc., New York.

Week	Weekly Detailed Course Contents & Teaching Methods	
1	Theoretical	Definition of lactic acid bacteria,morphological and physiological properties
2	Theoretical	Classifying lactic acid bacteria and methods used in classification
3	Theoretical	Metabolism of lactic acid bacteria
4	Theoretical	Utilisation of lactic acid bacteria in indusrty
5	Theoretical	Stabilities of lactic acid bacteria in foods
6	Theoretical	Antimicrobial compounds from lactic acid bacteria
7	Theoretical	Lactic acid bacteria in heath and disease
8	Theoretical	Probiotic lactic acid bacteria
9	Theoretical	Lactic acid bacteria and exopolysacchradies
10	Theoretical	Lactic acid bacteria in fermented dairy products
11	Theoretical	Lactic acid bacteria in cereal products
12	Theoretical	Lactic acid bacteria in fermented meat products
13	Theoretical	Lactic acid bacteria in fermented vegetabte and other products
14	Theoretical	Term homeworks and presentations

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	9	3	168
Midterm Examination	1	15	1	16
Final Examination	1	15	1	16
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = **ECTS**	8
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	
2	
3	
4	

5	

Programme Outcomes *(Food Engineering Doctorate)*	
1	Developing and investigating the details of current and advanced knowledge in the field of Food Engineering by original thought and/or research on the level of expertise based on the graduate qualification and reaching to the original definitions that bring innovation to science.
2	Gain of ability of develop strategies, policies and implementation plans in the field of food engineering and evaluate the results within the framework of quality processes.
3	Gain of ability to perceive, design, evaluate and finish an original process by using and following the knowledge of the recent developments in the engineering fields.
4	Gain of ability of making critical analysis, synthesis and evaluation of ideas and development in food engineering field
5	Having advanced knowledge of food science and its applications based on doctoral level qualifications.

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	2	4	5	3	1
P2	1	2	3	2	
P3		1	2	2	
P4	2	2	2	2	
P5	2	2	3	3	