



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Food Microbiology							
Course Code		LBT120		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	76 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		The aim of Food Microbiology course; basic concepts of microorganisms in foods, sources of microbial contamination of foods, factors affecting the reproduction of microorganisms in foods, food spoilage, foodborne diseases and food preservation methods.							
Course Content		Microorganisms and foods. Contamination sources of foods. Factors affecting the growth of microorganisms in food (internal factors, external factors). Food preservation methods (prevention of contamination, removal of contaminants from food, prevention of microbial reproduction, killing of microorganisms in foods). Foodborne diseases, epidemiology and control of foodborne pathogens.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, 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	Textbook Erkmen, O. (ed) "Food Microbiology", Efil Publications, Ankara, 2010. Ünlütürk, A., Turantaş, F. (ed) "Food Microbiology", Meta Press, İzmir, 2003.
2	Doyle M.P., Beuchat, L.R., Montville T.J. "Food Microbiology", ASM Press Washington D.C., 1997. Erol, İ. "Food Hygiene and Microbiology", Positive Printing, Ankara, 2007. Frazier, W.C., Westhoff, D.C., "Food Microbiology" McGraw-Hill International, 1988.
3	Jay, J. M., "Modern Food Microbiology", Chapman & Hall, New York, 1992. ICMSF, "Microorganisms in Foods 6; Food Commodities", Blackie Academic Professional, 1998.

Week	Weekly Detailed Course Contents	
1	Theoretical	Important microorganism groups in foods
	Practice	Recognition of media properties
2	Theoretical	Sources of food contamination
	Practice	Media preparation
3	Theoretical	Factors affecting the growth of microorganisms in foods
	Practice	Counting methods
4	Theoretical	Factors affecting the growth of microorganisms in foods
	Practice	Coliform bacteria cultivation and counting
5	Theoretical	Factors affecting the growth of microorganisms in foods
	Practice	Mold and yeast cultivation and counting
6	Theoretical	Microbial spoilage in foods
	Practice	Salmonella analysis
7	Theoretical	Microbial spoilage in foods
	Practice	Microbiological analysis of raw meat
8	Intermediate Exam	Midterm Exam
9	Theoretical	Pathogenic bacteria in foods and their control
	Practice	Microbiological analysis of meat products
10	Theoretical	Pathogenic bacteria in foods and their control
	Practice	Microbiological analysis of raw milk
11	Theoretical	Food preservation methods
	Practice	Microbiological analysis of dairy products
12	Theoretical	Food preservation methods
	Practice	Microbiological analysis of canned foods



13	Theoretical	New methods in food preservation
	Practice	Microbiological analysis of concentrated products
14	Theoretical	New methods in food preservation
	Practice	Microbiological analysis in water
15	Theoretical	Evaluation of microbiological results
	Practice	Microbiological analysis of equipment surfaces and ambient air
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Midterm Examination	1	9	1	10
Final Examination	1	9	1	10
Total Workload (Hours)				76
[Total Workload (Hours) / 25*] = ECTS				3

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Recognizing the beneficial and harmful activities of microorganisms in foods
2	Food microorganism relations in food safety
3	Microorganism behaviors in different processes applied to foods
4	Control of pathogen microorganisms in food
5	Counting and identification of microorganisms in different food groups

Programme Outcomes (Laboratory Technology)

1	To be able to comprehend social, cultural and social responsibilities, to be able to follow national and international contemporary problems and developments
2	Atatürk is bound to Atatürk nationalism in the direction of principles and reforms; Adopting the national, moral, spiritual and cultural values of the Turkish people, open to universal and contemporary developments, the Turkish language is a rich, rooted and productive language; Have a love of language and a consciousness; To have the ability to use as much of a foreign language as he would need to read, taste and habit and professionally.
3	To be able to recognize the basic hardware units and operating systems of a computer, having information about internet usage and preparing documents, spreadsheets and presentations on computer by using office programs.
4	Acquires theoretical and practical knowledge at the basic level in mathematics, science and vocational field.
5	With the knowledge of laboratory technology in the field, he knows and analyzes problems, brings interpretation of data and suggests solutions.
6	In laboratories, according to the prepared business plan and program, necessary work can be done to obtain the desired quality products.
7	To have professional and ethical responsibility in business life.
8	Development and change are open, follow scientific social and cultural innovations, and develop themselves constantly.

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	1	1	1	1	1
P2	1	1	1	1	1
P3	1	1	1	1	1
P4	2	2	2	2	2
P5	4	4	4	4	4
P6	4	4	4	4	4
P7	4	4	4	4	4
P8	4	4	4	4	4

