



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Dielectric Properties of Food and Microwave Heating							
Course Code		GMP505		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to teach dielectric properties of food, microwave heating and applications in food industry.							
Course Content		Dielectric properties, which is the physical properties of the food, alternative heating technology and use of microwave heating in the food industry will be told.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Microwave Engineering, 2nd Ed., D.M. Pozar, John Wiley, 2001
2	Foundations for Microwave Engineering, 2nd Ed., R. E. Collin, Wiley-IEEE, 2001
3	Microwave Engineering: Passive Circuits, P. A.Rizzin, Prentice-Hall, 1988

Week	Weekly Detailed Course Contents	
1	Theoretical	Dielectric properties of food
2	Theoretical	Effect of dielectric properties on microwave heating
3	Theoretical	Principles of heating with microwave
4	Theoretical	Microwave processing
5	Theoretical	Drying, Baking
6	Theoretical	Dissolving, Sterilization
7	Intermediate Exam	Exam
8	Theoretical	Cooking with microwaves
9	Theoretical	Heating properties of microwave
10	Theoretical	Modelling of microwave heating
11	Theoretical	Foods processed with microwave
12	Theoretical	Improving foods processed with microwave
13	Theoretical	Microwave applications
14	Final Exam	Final Exam

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 Master)

1	To provide further training and research opportunities to food engineers to meet the needs of the food industry
2	To develop and deepen the current and advanced knowledge in the field of food engineering with original thought and / or research at the level of expertise, based on the qualifications of the master
3	To identify, define, formulate and solve problems in applications related to Food Engineering and gain the ability to select and apply appropriate analytical methods and modeling techniques
4	To gain the ability to evaluate the accuracy of the data obtained from food analysis
5	To educate students having research, entrepreneur 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	3	3	3	3	3
P2	2	2	2	2	2
P3	1				
P4	1				
P5	2	5	5		

