



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Powdered Food and Encapsulation Technology							
Course Code		GMP530		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	201 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to give food powder properties in terms of bulk and single particle and unit operations, as related to production, handling, and processing of food powders. This course also covers particle encapsulation in many different ways							
Course Content		The importance of powdered food and encapsulation technology, powdered food production technology, structural properties of powdered foods, encapsulation techniques, physical and chemical encapsulation techniques in food applications							
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	30
Final Examination	1	50
Assignment	1	20

Recommended or Required Reading

1	Barbosa-Canovas, G.V. Ortega-Rivas, E., Juliano, P., Yan, H. 2005 "Food Powders Physical Properties, Processing, and Functionality"
2	Onwulata, C., 2005. "Encapsulated and powdered food"

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to food powder technology
2	Theoretical	Single particle properties of powdered foods
3	Theoretical	Bulk properties of powdered foods
4	Theoretical	Reconstitution properties of powdered foods
5	Theoretical	The importance of handling and mixing process in powdered foods
6	Theoretical	Production methods of powdered foods (Drying)
7	Theoretical	Production methods of powdered foods (Size reduction)
8	Intermediate Exam	Midterm
9	Theoretical	Agglomeration and size enlargement technology
10	Theoretical	Properties and preparation techniques of emulsions
11	Theoretical	Basic principles of encapsulation technology
12	Theoretical	Chemical encapsulation methods
13	Theoretical	Chemical encapsulation methods
14	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	8	3	154
Assignment	1	14	1	15
Midterm Examination	1	15	1	16
Final Examination	1	15	1	16
Total Workload (Hours)				201
[Total Workload (Hours) / 25*] = ECTS				8

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

1	
2	
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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	L6	L7
P1	4	2	4	5	2	5	5
P2						5	5
P3	5			5		5	
P4	1						
P5	1						

