



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Modified Oils and Production Technology							
Course Code		GMP516		Course 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 the course is to give information about oil modification techniques such as hydrogenation, fractionation and interesterification, and also to serve knowledge about techniques used in margarine and shortening production.							
Course Content		The factors affecting melting point of fats, technological applications in fractionation, hydrogenation technology, hydrogenation mechanism and kinetics, hydrogenation catalysts and hydrogen production, hydrogenation control, triglyceride structures of oils, interesterification technology, interesterification catalysts and applications, margarine and shortening production technology.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Assignment	2	20

Recommended or Required Reading

1	Kayahan, M., 2002. Modifiye yağlar ve üretim teknolojileri, ODTÜ pres, Ankara
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Week	Weekly Detailed Course Contents	
1	Theoretical	Basic information about oil modification
2	Theoretical	Fractionation technology; basic principles
3	Theoretical	Fractionation technology; technological applications
4	Theoretical	Hydrogenation technology; basic principles
5	Theoretical	Hydrogenation technology; catalysts
6	Theoretical	Hydrogenation technology; technological applications
7	Theoretical	Interesterification technology; triglyceride distribution theories
8	Intermediate Exam	Midterm
9	Theoretical	Interesterification technology; calculations
10	Theoretical	Margarine production technology; constituents
11	Theoretical	Margarine production technology; emulsion
12	Theoretical	Frying oils; frying theory
13	Theoretical	Frying oils; production
14	Theoretical	Presentation of projects
15	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Assignment	2	28	2	60
Midterm Examination	1	29	1	30
Final Examination	1	39	1	40
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	1
P2	3	3	3	3	
P3	3	2	2	4	
P4	3	3	3	3	
P5	3	4	3	3	

