



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Cold and Frozen Casing Techniques							
Course Code		MSİ209		Couse Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	75 (Hours)	Theory	2	Practice	1	Laboratory	0
Objectives of the Course		Fruits and vegetable products, preservation techniques and cold system facilities and industrial applications in a laboratory environment.							
Course Content		Cooling systems Preservation methods Cold air systems							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Cemeroglu, B., Ozkan, M., Karadeniz, F., Yemenicioglu, A., 2004. isi Fruit and Vegetable Processing Technology “, Volume 1, Editor: Cemeroglu, B. Food Technology Association Publications, Ankara.
2	Cemeroğlu, B., Özkan, M., Karadeniz, F., 2004., Fruit and Vegetable Processing Technology Tekn, Volume 2, Editor: Cemeroğlu, B. Food Technology Association Publications, Ankara.

Week	Weekly Detailed Course Contents	
1	Theoretical	The structure of fruits and vegetables, composition and importance of preservation techniques
	Practice	Program introduction and rules
2	Theoretical	Respiration and perspiration in fruit vegetables
	Practice	Introduction of equipment
3	Theoretical	Cooling systems
	Practice	Pre-treatment of boiling application
4	Theoretical	Pre-cooling methods and cold cycle
	Practice	Boiling proficiency test
5	Theoretical	Fruit vegetables in cold storage
	Practice	Introduction of cold stores
6	Theoretical	Conditions of storage in cold vegetables (temperature, humidity)
	Practice	Storage test and parameter measurement
7	Theoretical	Importance and quality of raw material in freezing storage
	Practice	Comparison of freezing time in fruits and vegetables
8	Intermediate Exam	Midterm
9	Theoretical	Pretreatment of freezing of fruits and vegetables (selection, sorting, washing, peeling, sorting, boiling)



9	Practice	Pretreatment
10	Theoretical	Freezing fruit and vegetables
	Practice	Freezer types
11	Theoretical	Freezing methods and freezer types used in fruit and vegetable products
	Practice	Comparison of freezing time in fruits and vegetables
12	Theoretical	Packaging of frozen products
	Practice	Production of frozen finger potatoes
13	Theoretical	Frozen finger potato production technique
	Practice	Dissolving and frying of frozen finger potato
14	Theoretical	Factors affecting the quality of the frozen product
	Practice	General evaluation
15	Theoretical	Change in storage time of frozen product
	Practice	General evaluation
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	1	14
Individual Work	14	0	1	14
Midterm Examination	1	7	1	8
Final Examination	1	10	1	11
Total Workload (Hours)				75
[Total Workload (Hours) / 25*] = ECTS				3

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Information on preservation techniques in fruit and vegetable products
2	To be able to comprehend cold storage methods
3	To learn the application methods of freeze protection
4	To understand the importance of preservation methods in industry
5	To be able to comprehend the methods of freezing and cold storage in different fruits and vegetables and working principles of equipments
6	To design the current system for a process given in the processes of different products

Programme Outcomes (Fruit and Vegetables Processing Technology)

1	To be able to understand social, cultural and social responsibilities and to have the ability to follow national and international contemporary
2	In line with the principles and reforms of Atatürk; Adopting the national, moral, spiritual and cultural values ??of the Turkish Nation, open to universal and contemporary developments, the Turkish language is a rich, rooted and productive language; love and awareness of language; to have the ability to use the foreign language sufficiently and with the habit of reading and professionally.
3	To know the basic hardware units and operating systems of computer, internet to be able to prepare documents, spreadsheets and presentations on the computer by using office programs
4	Gains the theoretical and practical knowledge at the basic level in mathematics, science and professional fields
5	Recognize and analyze the problems with the knowledge of fruit and vegetable technology in the field, interpret the data and propose solutions.
6	According to the prepared work plan and program in laboratories, it can carry out the necessary works to obtain the desired quality product.
7	To have professional and ethical responsibility in business life.



8	It is open to development and change, follows scientific social and cultural innovations and constantly improves itself.
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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
P1	2	2	2	3	2	2
P2	2	2	2	3	2	2
P3	2	2	2	2	2	5
P4	4	4	4	4	4	4
P5	5	5	5	5	4	3
P6	4	4	4	4	5	4
P7	4	4	4	4	4	2
P8	4	4	4	3	3	2

