



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Planning of Food Storages							
Course Code		ZTY602		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	150 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		Provide students to analyze the relationships between buildings, plants and environment in agricultural product storages, to understand application principles of building systems and environmental control systems in storages and to planning agricultural product storage.							
Course Content		Storage systems used for storage of agricultural products and features, relationships between products to be stored and the environmental conditions, stack types, site selection for storage structures, structural features in store, determination of ventilation and cooling requirements and planning of air conditioning systems for storage system to be implemented, analysis of construction and operating costs of the store.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Project Based Study, Individual Study, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Doğan, H., 2002. Ventilation and Climatization Basics (Havalandırma ve İklimlendirme Esasları). Seçkin Yayıncılık, Ankara. • FAO, 1970.
2	Food Storage Manuel (Part III and Indexes). Food and Agriculture Organization of the United Nations, Rome.
3	Karaçalı, İ., 2009. Storage and Marketing of Horticultural Products (Bahçe Ürünlerinin Muhafaza ve Pazarlaması). E.Ü. Ziraat Fakültesi yayınları, No: 494, İzmir.
4	TSE, 1978. TS 2995: Fruits and Vegetables-Physical Conditions in Cold Stores Definitions and Measurement (Meyve ve Sebzeler-Soğuk Hava Depolarındaki Fiziksel Koşullar, Tarifler ve Ölçme). Türk Standartlar Enstitüsü (TSE), Ankara.

Week	Weekly Detailed Course Contents	
1	Theoretical	Course Introduction
	Preparation Work	Acquaintance
2	Theoretical	Product-environment relationships in storages and product storage requirements.
	Preparation Work	Presentation of review and evaluation report of the related publications
3	Theoretical	Control of environmental conditions in storages.
	Preparation Work	Presentation of modern environmental control practices in storages
4	Theoretical	Storage types and structural features.
	Preparation Work	The presentation related to selection of construction specifications and construction materials in storages.
5	Theoretical	Stowing types in storages and planning the stacks.
	Preparation Work	Problem solving with guidance
6	Theoretical	Positioning of the storages according to marketing requirements, transportation conditions and soil structure.
	Preparation Work	The presentation related to evolution of storage requirements and storages in Ege region
7	Theoretical	Planning of building systems in simple storages.
	Preparation Work	Presentation of review and evaluation report of the related publications
8	Theoretical	Planning of conditioning systems in simple storages.
	Preparation Work	Problem solving with guidance
9	Intermediate Exam	Midterm exam
10	Theoretical	Planning of building systems in cold storages.
	Preparation Work	Presentation of review and evaluation report of the related publications
11	Theoretical	Determination of cold requirement and cooling system.
	Preparation Work	Problem solving with guidance



12	Theoretical	Calculation of construction and operating costs of storages.
	Preparation Work	Presentation of review and evaluation report of the related publications
13	Theoretical	An overall assessment of storage facilities in the world and Turkey.
	Preparation Work	The presentation related to evolution of storage facilities in the world and Turkey.
14	Theoretical	Other practices
	Preparation Work	General evaluation
15	Theoretical	Delivering term paper
	Preparation Work	Presentation term paper
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	2	70
Lecture - Practice	14	2	2	56
Midterm Examination	1	8	2	10
Final Examination	1	12	2	14
Total Workload (Hours)				150
[Total Workload (Hours) / 25*] = ECTS				6

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to establish, to evaluate and to use relationships between structure-plant-environment in planning.
2	To be able to use basic engineering knowledge in planning.
3	To be able to reach and evaluate necessary data by cooperation with different disciplines for planning.
4	To be able to develop proper storage plans for desired objectives and conditions.
5	To be able to analyze the storages and to develop and to apply new scientific approaches to solve the problems.
6	To be able to follow and to transfer developments regarding the storage of agricultural products.

Programme Outcomes (Agricultural Structures and Irrigation Doctorate)

1	Ability to analyze, synthesize and evaluate different forms of scientific knowledge in the field of studies
2	Approach to information systematically, and gain skills related to their field the research methods
3	Innovative science to develop a scientific method or a method that is known to practice in their field
4	Ability to organize and manage the project and advanced scientific research
5	Advanced technologies, find solutions to engineering problems taking advantage of the software and model approaches
6	Creative, unbiased and critical thinking
7	A topic in the field of written, verbally and visually as the ability to express
8	Ability to publish in refereed journals National and international the results of studies

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	4	5	5	4	5	5
P2	5	5	5	5	5	4
P3	4	4	4	4	4	4
P4	4	5	4	4	5	4
P5	5	5	5	5	5	3
P6	3	4	4	3	4	3
P7	5	5	5	5	5	5
P8	5	5	5	5	5	4

