



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Harvest Mechanisation of Horticultural Crops							
Course Code		ZTM509		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	7	Workload	174 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to give knowledge about the basic principles of the harvest and parametres which effects on harvesting of garden plants that are examined as main titled fruit, berry fruit and vegetable.							
Course Content		Biological characteristics of the vineyard and garden products. Mechanical harvesting and principles. Shaking Parameters. Auxiliary Harvest Equipment, shakers, clamps, keeping platforms, Ground Fruit Picking Machines. Citrus, strawberry, harvest mechanization of grape-like fruits bush type. Cost of harvest. Casualties, Damaging and Product Quality. Vegetable Harvest Mechanization Principles. Harvest with Auxiliary Equipments. Semi-mechanized harvesting. Cabbage, Lettuce, green beans, green peas, cucumber, principles of tomato and pepper harvest. Bulb and root vegetables harvest principles							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case 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	Bağ Bahçe Sebze ve Endüstri Kültürlerinde Mekanizasyon Uygulamaları, Moser, Ing. E. (Çeviren: Tunçer, İ. K., Özgüven, F.), (1989), Türkiye Ziraat Kurumu Mesleki Yayınları : 52
2	Bahçe Mekanizasyonu, Erdoğan, D., (1997) Ankara Üniversitesi Ziraat Fakültesi Yayın No : 1477
3	Bahçe Bitkilerinin Mekanizasyonu. Özmerzi, A., (1996) T.C. Akdeniz Üniversitesi Yayın No : 63

Week	Weekly Detailed Course Contents	
1	Theoretical	The development of harvesting in horticulture
	Preparation Work	Research
2	Theoretical	Biological characteristics of the vineyard and garden products
	Preparation Work	Research
3	Theoretical	Fruit harvest mechanization, mechanical harvesting and principles
	Preparation Work	Research
4	Theoretical	Shaking parameters
	Preparation Work	Research
5	Theoretical	Auxiliary harvesting equipment
	Preparation Work	Research
6	Theoretical	Shakers
	Preparation Work	Research
7	Theoretical	Clamps, holding platforms, fruit-picking machines from ground
	Preparation Work	Research
8	Intermediate Exam	Mid term exam
9	Theoretical	Citrus harvesting, strawberry harvest mechanization
	Preparation Work	Research
10	Theoretical	Harvesting of shrub type berry fruits
	Preparation Work	Research
11	Theoretical	Grape harvest mechanization, harvesting costs, losses, damages and product quality
	Preparation Work	Research
12	Theoretical	Vegetable harvest mechanization principles, harvest with auxiliary equipments, semi-mechanized harvesting
	Preparation Work	Research



13	Theoretical	The principles of cabbage and lettuce harvest
	Preparation Work	Research
14	Theoretical	The principles of green peas, cucumber, tomato and pepper harvest
	Preparation Work	Research
15	Theoretical	the principles of onions and rooted vegetables harvest
	Preparation Work	Research
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	4	2	84
Assignment	14	0	2	28
Reading	14	0	2	28
Midterm Examination	1	12	2	14
Final Examination	1	18	2	20
Total Workload (Hours)				174
[Total Workload (Hours) / 25*] = ECTS				7

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Getting general knowledge of the biological and mechanical properties of horticultural products
2	Measuring and interpreting the biological properties of horticultural crops
3	Understanding application fields and parameters of mechanical harvesting of fruit and vegetables
4	Knowledge of the general harvest principles of horticultural crops
5	Getting knowledge about the basic features for the design of harvesting machines
6	Analyze damages and losses in harvest and the costs of harvest

Programme Outcomes (Agricultural Machinery Master)

1	Identification, formulation and solving the problems in the field of Agricultural Machinery
2	The ability to use modern engineering tools and techniques
3	The ability to use the information, which is obtained by following the scientific and technological developments, in the academic life and practice.
4	The ability to evaluate multi-faced relationship between them by understanding interaction among agricultural technology, soil, plants and animals
5	Professionalism and ethical responsibility
6	The ability to work in disciplinary and multi-disciplinary teams
7	The ability to communicate effectively
8	The ability to do research for accessing information and to use data base and other resources
9	The ability to do analyze and interpret the experimental results and the design of experiment
10	The ability to identify and interpret knowledge of current professional issues and events
11	The ability to get aware the universal and social effects of engineering solutions and applications
12	Accordance with the requirements of science and technology, ability to use scientific knowledge creative

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	5	5	5	5	5	5
P2	5	5	5	5	4	4
P3	4	4	4	4	4	4
P4	5	5	5	5	5	5
P6					3	3
P8	4	4	4	4	4	4
P9	5	5	5	5	5	5
P10	5	5	5	5	5	5
P11	5	5	5	5	5	5
P12	5	5	5	5	5	5

