



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Sustainable Agriculture Technologies							
Course Code		ZTM605		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	7	Workload	170 ( <i>Hours</i> )	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of the course, the applicability of sustainable agricultural techniques, superior and weaknesses and sustainable management of mechanization of agriculture, farm traffic, providing at least the output of agricultural mechanization techniques to make students aware of the entry.							
Course Content		Equipment-machine, process, system definitions, the basic principles of sustainable agriculture, conservation tillage techniques, no-till farming techniques and sustainable farming techniques in terms of time, energy and cost requirements, sustainable agriculture, sustainable farming techniques and the applicability of cultural processes							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion, 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	Ekim, Bakım, Gübreleme Makinaları. 1995. Önal, İ., E.Ü. Ziraat Fak. Yayınları, 490, Bornova-İZMİR
2	Farm Power and Machinery Management. 1977. Hunt D., Iowa State University Pres, IOWA
3	Değişik Toprak İşleme ve Pamuk Ekim Tekniklerini Aydın Yöresi Koşullarına Uygulama Olanakları. 1999. Yalçın, İ., Doktora Tezi, Bornova-İZMİR

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction (Course disposition, Tool-machine, process, system definitions)
	Preparation Work	Research
2	Theoretical	Comparison with the basic principles of sustainable agriculture and farming techniques
	Preparation Work	Research
3	Theoretical	Conservation tillage techniques and tools used in machines (reduced tillage, no-till planting)
	Preparation Work	Research
4	Theoretical	Conservation tillage techniques and tools used in machines (precision tillage, ridge sowing)
	Preparation Work	Research
5	Theoretical	Techniques and tools used tillage machines
	Preparation Work	Research
6	Theoretical	Direct sowing machines and equipments
	Preparation Work	Research
7	Theoretical	Direct sowing machines and equipments
	Preparation Work	Research
8	Intermediate Exam	Midterm exam
9	Theoretical	Time requirement of sustainable farming techniques
	Preparation Work	Research
10	Theoretical	Labor requirement of sustainable farming techniques
	Preparation Work	Research
11	Theoretical	Sustainable farming techniques and the amount of energy requirement
	Preparation Work	Research
12	Theoretical	Methods of providing input multiple output with a minimum of mechanization
	Preparation Work	Research
13	Theoretical	Cultural practices in sustainable agriculture (agricultural control, erosion control ... etc)
	Preparation Work	Research



14	Theoretical	The applicability of sustainable agriculture techniques
	Preparation Work	Research
15	Theoretical	The applicability of sustainable agriculture techniques
	Preparation Work	Research
16	Final Exam	Final exam

**Workload Calculation**

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	2	70
Lecture - Practice	14	0	2	28
Assignment	14	0	2	28
Term Project	1	0	20	20
Midterm Examination	1	10	2	12
Final Examination	1	10	2	12
Total Workload (Hours)				170
[Total Workload (Hours) / 25*] = <b>ECTS</b>				7

\*25 hour workload is accepted as 1 ECTS

**Learning Outcomes**

1	Knowledge about sustainable agriculture
2	Sustainable farming systems analysis
3	Knowledge about preventive and no-till farming techniques
4	Sustainable farming techniques to make the choice of appropriate mechanization
5	Sustainable farming techniques to make the choice of appropriate mechanization

**Programme Outcomes (Agricultural Machinery Doctorate)**

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
P1	5	5	5	5
P2	5	5	5	5
P3	4	4	4	4
P4	5	5	5	5
P5	4	4	4	4
P6	4	4	4	4
P8	5	5	5	5
P9	5	5	5	5
P10	5	5	5	5
P11	5	5	5	5
P12	5	5	5	5

